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**Pragmatic Encroachment: Entailments and Evaluation**

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**Pragmatic Encroachment: Entailments and Evaluation**

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# **Pragmatic Encroachment: Entailments and Evaluation**

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Pragmatic Encroachment, the view that knowledge is sensitive to one's practical situation, is a marked departure from traditional epistemology. A popular way of endorsing it requires that one's evidence be practically adequate. I derive the following entailments from this view: one can gain knowledge that  $p$  by getting evidence against  $p$ , there is a significantly stronger evidential requirement for knowing atheism than there is for Christianity, and some tiny bets can bring about very strong evidential requirements. I argue that these entailments count as evidence against Pragmatic Encroachment.

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# Chapter 1: Pragmatic Encroachment and its Motivation

## 1 THE THIN VIEW

Since Plato, most epistemologists have held that knowledge ascriptions, statements of the form “S knows that  $p$ ”, are true only if they meet an **alethic** requirement, namely, only if  $p$  is true.<sup>1</sup> Also since Plato, most epistemologists, though only a few less than those that accept the alethic condition, have held that knowledge ascriptions are true only if they meet a **doxastic** requirement, namely, only if S believes that  $p$ .<sup>2</sup> Epistemologists also widely agree that knowledge ascriptions are true only if they meet a **truth-conduciveness requirement**. That is, most epistemologists agree that knowledge ascriptions are true only if S’s strength of epistemic position<sup>3</sup> with respect to  $p$  is sufficiently strong.<sup>4</sup>

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<sup>1</sup> It’s difficult to find anyone denying this alethic condition in the literature. Allen Hazlett denies that “know” is a factive verb, see Hazlett (2010), but even in doing this he is not trying to show that knowing  $p$  is compatible with the falsity of  $p$ . Rather his goal is to dissuade philosophers from placing too much value on semantic considerations when doing epistemology.

<sup>2</sup> Again, it’s difficult to find anyone denying this requirement in the literature. Colin Radford in his (1966) article plausibly does, and Eric Schwitzgebel and Blake Meyers-Schultz in their (2013) article clearly do, but they openly admit that theirs is a non-standard view.

<sup>3</sup> I’m using ‘strength of epistemic position’ as DeRose (2009) does (cf. pp. 7-9). One’s strength of epistemic position is determined by factors like evidence or the reliability or proper functioning of one’s cognitive faculties. If one is an evidentialist, then the better one’s evidence with respect to  $p$ , the stronger one’s epistemic position with respect to  $p$ . If one is a reliabilist, then the more reliable was the faculty that gave rise to a belief that  $p$ , the stronger one’s epistemic position with respect to  $p$ . And so on. To ease the prose, I’ll gloss ‘strength of epistemic position’ with ‘evidence’ throughout the rest of the paper.

<sup>4</sup> Depending on particular factor that determines the strength of epistemic position, other truth-conducive requirements will need to be added. For example, if the particular factor doesn’t block gettier cases, then some anti-gettier requirement will need to be added. Likewise, if the particular factor only guarantees that the proposition believed, and not the believing of the proposition by S, has the right truth-conducive features, then another truth-conducive requirement will need to be added to guarantee that the believing of  $p$  by S has the right truth-conducive features.

Call these requirements the traditional epistemic requirements, and call the features which satisfy these requirements the traditional epistemic features.

Pragmatic Encroachment is the view that, in addition to these traditional epistemic requirements, knowledge ascriptions are true only if they meet some pragmatic requirement. More perspicuously, Pragmatic Encroachment is the view that two subjects,  $S_a$  and  $S_b$ , can, if their practical situations are sufficiently different, differ with respect to knowing  $p$ , even though they are just alike with respect to the traditional epistemic features.

Two comments. First, I'm not attempting to give, or for that matter even concern myself with, an analysis of knowledge here. Second, I've chosen to describe the traditional epistemic requirements as requirements on the truth conditions of knowledge ascriptions rather than requirements on knowledge. Doing this has a cost and a benefit. The cost is that it's either confusing or cumbersome. It's initially confusing because it makes epistemology appear to be a study of knowledge ascriptions, which it is not. It is a study of knowledge. However, if the disquotational schema ["S knows that  $p$ ," iff S knows that  $p$ ] is true, then any knowledge ascription claim can be converted into a knowledge claim, and this would remove the confusion. But, constantly using the disquotational schema is cumbersome. The benefit of describing the traditional epistemic requirements in terms of knowledge ascriptions is that it makes contrasting Pragmatic Encroachment with nearby views, Contextualism in particular, much easier. This is because Contextualism is a semantic thesis that can only be expressed by talking about knowledge ascriptions—it doesn't make sense to talk about Contextualism's requirements on knowledge. But, Pragmatic Encroachment and Strict Invariantism can be characterized in terms of knowledge ascriptions, albeit awkwardly, with the help of the

disquotational schema. And, doing so aids in clearly seeing the difference between these views.<sup>5</sup> Given the aims of this paper, this cost is worth paying.

### 1.1 Contrastive Characterization

In order to gain a clearer understanding of Pragmatic Encroachment, it's helpful to contrast it with other nearby views. Doing this is facilitated by considering the reasons that support Pragmatic Encroachment. Below is an argument that puts enough of these reasons on display to distinguish it from the nearby views.

Premises:

[K Ascription+]:  $S_a$  says "I know that the bank is open on Saturday," and her statement is true.

[K Ascription-]:  $S_b$  says, "I don't know that the bank is open on Saturday," and her statement is true.

[Traditional Requirements]:  $S_a$  and  $S_b$  both have the same evidence that the bank is open on Saturday and they both truly believe on the basis of this evidence that the bank is open on Saturday.

[Disquotation+]:  $S_a$ 's statement, "I know that the bank is open on Saturday" is true if and only if  $S_a$  knows that the bank is open on Saturday.

[Disquotation-]:  $S_b$ 's statement, "I don't know that the bank is open on Saturday" is true if and only if  $S_b$  doesn't know that the bank is open on Saturday.

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<sup>5</sup> For what it's worth, this is the approach that Timothy Williamson takes in, Williamson (2005), and, in my view, adopting this approach is a big part of what makes Williamson's contrastive characterization of the views so clear.

It follows from [K Ascription+] and [Disquotation+] that:

(1)  $S_a$  knows that the bank is open on Saturday.

And it follows from [K Ascription–] and [Disquotation–] that:

(2)  $S_b$  doesn't know that the bank is open on Saturday.

By conjunction introduction on (1) and (2):

(3)  $S_a$  knows that the bank is open on Saturday, and  $S_b$  doesn't know that the bank is open on Saturday.

It follows from [Traditional Requirements] and (3) that:

(4) Possibly, some subjects  $S_a$  and  $S_b$  both have the same evidence for  $p$ , and each truly believes  $p$  on the basis of this evidence, while  $S_a$  knows  $p$  and  $S_b$  does not know  $p$ .<sup>6</sup>

And lastly, for the sake of thoroughness, let's say that:

(5) It's not the case that  $S_a$  and  $S_b$  differ with respect to knowing  $p$  because of some non-practical difference.<sup>7</sup>

It follows from (4) and (5) that Pragmatic Encroachment is true.

To be clear, I haven't deployed this argument to convince you of its conclusion. I've written it so that I can use it as a tool to distinguish Pragmatic Encroachment from other nearby views.

Pragmatic Encroachers are those that take this argument to be sound. Contextualists and Strict Invariantists do not.

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<sup>6</sup> To be careful, let's stipulate that the context of utterance is held fixed throughout this sentence, otherwise it's truth would be consistent with some versions of Contextualism.

<sup>7</sup> This premise serves to rule out views that are possible but very implausible. Views like whether  $S$  knows  $p$  is sensitive to whether  $S$  is wearing a red shirt, when wearing a red shirt has no effect on  $S$ 's practical situation.

Strict Invariantists think that the truth of knowledge ascriptions depends on features of the circumstance of evaluation.<sup>8</sup> For example, it's compatible with Strict Invariantism that the knowledge ascription, "S knows that  $p$ ," is true when the circumstance of evaluation is such that  $p$  is true, and then false when  $p$  is false. However, according to Strict Invariantism, the truth of knowledge ascriptions are not sensitive to just any change in the features of the circumstance of evaluation, in particular, knowledge ascriptions are sensitive only to the features given in [Traditional Requirements]. Thus, if the circumstances of evaluation for two knowledge ascriptions are the same with respect to these features, then these two knowledge ascriptions must have equivalent truth values. Therefore, Strict Invariantists take the above argument to be unsound because given [Traditional Requirements], [K Ascription+] or [K Ascription-] must be false.

The truth of [K Ascription+], [K Ascription-], and [Traditional Requirements] is compatible with Pragmatic Encroachment because it maintains that knowledge ascriptions are sensitive to the practical features of the circumstance of evaluation, and these sorts of features aren't ruled out by [Traditional Requirements].

Contextualists also think that there are possible pairs of cases that make all of [K Ascription+], [K Ascription-], and [Traditional Requirements] true, but for a different reason. Contextualists, along with Strict Invariantists and Pragmatic Encroachers, hold that truth of knowledge ascriptions depends on some features of the circumstance of evaluation. In particular, Contextualists agree with the Strict Invariantists on this point, and they disagree with the Pragmatic Encroachers. That is, according to Contextualism

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<sup>8</sup> I'm using 'circumstance of evaluation' in the same way that Kaplan (1989) does. The same goes for 'context of utterance', 'character', and 'content'.

those features listed in [Traditional Requirements] are all and only the features of a circumstance of evaluation that knowledge ascriptions are sensitive to.

So, how is it that Contextualists can consistently affirm [K Ascription+], [K Ascription-], and [Traditional Requirements]? Answer: by holding that there's another dimension of variability for knowledge ascriptions—in particular, the content of 'know' varies with the context of utterance. While holding this allows Contextualists to consistently affirm [K Ascription+], [K Ascription-], and [Traditional Requirements], it commits them to denying [Disquotation-] or [Disquotation+].<sup>9</sup> Contextualists are committed to this because the words before the biconditional in [Disquotation+] and [Disquotation-] are in quotes and the words after the biconditional in [Disquotation+] and [Disquotation-] are not in quotes, and thus can be assessed according to different contexts of utterance. This combined with the claim that the content of knowledge ascriptions varies with the context of utterance is enough to show that the words before and after the biconditional in [Disquotation+] and [Disquotation-] are not truth functionally equivalent.

So, Contextualists find the above argument unsound because at least one of [Disquotation+] or [Disquotation-] are false. Strict Invariantists and Pragmatic Encroachers both agree to [Disquotation+] and [Disquotation-] because they think that the content of knowledge ascriptions doesn't vary with the context of utterance.

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<sup>9</sup> The most common sort of Contextualists deny both [Disquotation+] and [Disquotation-], but odder varieties could consistently deny only one of these two. For example, one could be a contextualist about knowledge ascriptions, but not knowledge denials and deny [Disquotation+] while accepting [Disquotation-].

## 1.2 Pragmatic Encroachment and Contextualism

Pragmatic Encroachment and Contextualism are easily confused. Perhaps the best way to see their distinctness is to focus on the fact that Contextualism is a semantic thesis; it's a theory about knowledge ascriptions. Pragmatic Encroachment is not; it's a theory about knowledge. This is not to say, however, that Contextualism is epistemologically uninteresting, since it has lots of epistemological implications.

Perhaps its most striking implication is with respect to the skeptical paradox. A paradox is any jointly inconsistent set of individually plausible propositions. The stronger the plausibility of each of the propositions the stronger the paradox.

Here's an expression of a strong epistemological paradox:

(6) S knows that S has hands.

(7) S knows that (if S has hands, then S isn't a handless BIV.)

(8) If S knows that (p), and S knows that (if p, then q), then S is in a position to know that (q).

(9) S isn't in a position to know that S isn't a handless BIV.

For widely known reasons, each of (6)–(9) is plausible, and yet this set is jointly inconsistent. The response of non-Contextualists to this paradox: one the propositions has to go! Which one? Some, notably Fallibilists, argue that (9) is false. Epistemic closure deniers object to (8). Skeptics argue that (6) has to go, and some philosophers even deny (7).<sup>10</sup> Each of these views is problematic at least in so far as each denies an independently plausible proposition. Contextualism has the resources to respond differently; it can deny that the set is inconsistent, and thus dissolve the paradox without denying any of (6)–(9). It can do this, because, according to Contextualism, the meaning 'know' varies with the

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<sup>10</sup> Roush (2010).

context of utterance, and it's plausible that the context of utterance of (6), whenever this paradox is being stated, is importantly different from the context of utterance of (9). As such, an argument that purported to show that the conjunction of (6), (7), and (8) entailed the denial of (9), for example, would be invalid due to an equivocation on 'know'. Notice, however, that this equivocation response to the skeptical paradox isn't available to the Pragmatic Encroachers. With respect to this issue, Pragmatic Encroachers, because their view is not a linguistic thesis, are in the same boat as all the other non-Contextualists.

To be clear, I'm in no way endorsing one of these responses to the skeptical paradox over another. I've only brought this up in order to illustrate the difference between Contextualism and Pragmatic Encroachment.

### **1.3 Positive Characterizations**

In addition to these negative characterizations of Strict Invariantism and Contextualism, some positive claims can be made as well. Strict Invariantists are committed to the truth of [Disquotation+] and [Disquotation-], and the denial of [K Ascription+] or [K Ascription-]. They assess these propositions in this way because they hold that the truth of knowledge ascriptions don't vary either with respect to the practical features of the circumstance of evaluation or with the context of utterance. Contextualists are committed to the truth of [K Ascription+] and [K Ascription-], and the falsity of either [Disquotation+] or [Disquotation-]. They assess these propositions in this way because they hold that the truth of knowledge ascriptions varies with the context of use, but not with respect to the practical features of the circumstance of evaluation. Pragmatic Encroachers are committed to the truth of all these premises, and thus the conclusion, of the above argument. They assess the premises in this way because they hold that the truth

of knowledge ascriptions don't vary with the context of utterance, but do vary with respect to the practical features of the circumstance of evaluation.<sup>11</sup>

## 2 MOTIVATION

Why might one think that Pragmatic Encroachment is true? That is, why might one be motivated to accept the premises of the above argument? Given the stipulation in [Traditional Requirements], the main consideration that counts in favor of accepting [K Ascription+] and [K Ascription-] is that knowledge standards are shifty. One would be motivated to accept [Disquotation+] and [Disquotation-] if one were convinced that Contextualism is false. Thus, to show why one might think that Pragmatic Encroachment is true, I'll give the main reasons for thinking that knowledge standards are shifty, and I'll give the main reasons for rejecting Contextualism. To be fair, I'll also consider the Strict Invariantists' objections to the claim that knowledge standards are shifty, and the Contextualists' rejoinders to the attacks on their view. Lastly, I'll consider some objections to Pragmatic Encroachment that the Contextualist can make—objections that don't entail that knowledge standards aren't shifty.

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<sup>11</sup> While the truth of all the premises of the above argument is a sufficient condition for the truth of the conclusion, it isn't necessary. For example, the truth of Pragmatic Encroachment is consistent with the falsity of [Disquotation+] or [Disquotation-], since one could hold that knowledge is sensitive to the subject's practical situation, which would entail the truth of Pragmatic Encroachment, and that 'know' is context sensitive, which would make either [Disquotation+] or [Disquotation-] false. Presumably such a view hasn't been defended in the literature because, *prima facie*, it has all the costs of Contextualism and Pragmatic Encroachment and no additional benefits.

## 2.1 For Shifty Knowledge Standards

Are knowledge standards shifty? That is, is there some case pair that satisfies the constraints given in [Traditional Requirements], and also makes both [K Ascription+] and [K Ascription-] true?

### *Motivation One: Bank Type Cases*

Both Pragmatic Encroachers and Contextualists claim that knowledge standards are shifty, and often cases like the following are used to support this claim.<sup>12</sup>

LOW BANK: On Friday, Kiarra believes that the bank will be open on Saturday. She holds this belief because she remembers that the bank was open on Saturday a few weeks ago. Also, if she were to act on this belief by waiting to go to the bank on Saturday to deposit her paycheck and the bank was closed, nothing terrible would happen. Suppose Kiarra's belief is true. In this situation Kiarra says, "I know that the bank is open on Saturday."

Intuitively, Kiarra speaks truly in this case. Her evidence in this case, even though it's far from guaranteeing that the bank is open on Saturday, is strong enough.

Now consider another example:

HIGH BANK: On Friday, Kiarra believes that the bank will be open on Saturday. She holds this belief because she remembers that the bank was open on Saturday a few weeks ago. Also, if she were to act on this belief by waiting to go to the bank on Saturday to deposit her paycheck and the bank were closed, then something very bad would happen. Suppose Kiarra's belief is true. In this situation Kiarra says, "I don't know that the bank is open on Saturday."

Intuitively, Kiarra speaks truly in this case as well. Notice that her evidence in this case is the exact same evidence that she had in LOW BANK, and she's also not changed

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<sup>12</sup> For examples of Pragmatic Encroachers: Stanley (2005: 3-4), Fantl and McGrath (2002: 67-68), Hawthorne (2004: 176-177). For examples of Contextualists advancing such cases see: See DeRose (1992: 913), Cohen (1999: 58).

with respect to any of the other traditional epistemic features. That is, Kiarra in LOW BANK and Kiarra in HIGH BANK are just alike with respect to all the features listed in [Traditional Requirements]. Accordingly, knowledge standards are shifty.

***Motivation Two: Fallibilism***

Another reason to think that knowledge standards are shifty is that it helps to solve one of Fallibilism's nasty problems.<sup>13</sup> Seeing this benefit requires a little setup. First I'll give a quick characterization of Fallibilism, then I'll point out a main problem for this view, and after that I'll show how holding that knowledge standards are shifty helps alleviate this problem.

Fallibilism is the view that S can know that  $p$  even though there is a non-zero epistemic chance for S that  $\neg p$ . The concept of epistemic chance in this characterization can be understood by appealing to rational gambles. Making this connection, Fantl and McGrath write, "...whether it is rational to accept a gamble on  $p$  depends, not on your subjective degree of belief, or on objective chance beyond your ken, but on how epistemically likely  $p$  is for you, i.e. on its epistemic chance for you."<sup>14</sup>

There are two reasons to think that this version of Fallibilism is true. The first is that it's very plausible to say that one doesn't know the conjunction of all the propositions that one knows individually. This is often called the preface paradox. Fallibilism neatly explains the preface paradox, since according to Fallibilism one can know  $p$  just so long as there is a small enough epistemic chance for one that  $\neg p$ , and so one can know lots of propositions that one might be wrong about. However, if enough of these propositions are conjoined together, the tiny risk of being wrong about each

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<sup>13</sup> The following is just a summary of the first chapter of Fantl and McGrath (2009).

<sup>14</sup> Fantl and McGrath (2009), 13.

individual proposition aggregate together to make the risk of being wrong about the conjunction large enough to clearly block one from knowing the conjunction.

The second reason is that there are propositions that one knows that one isn't rational to gamble on. For example, consider the proposition that Plato taught Aristotle. It's very plausible that you know this proposition. Would it be rational for you to gamble anything on it? For example, is it rational to bet \$100,000 on it? No way! But, if there were no epistemic chance for you that Plato didn't teach Aristotle, then it would be rational for you to take this gamble. So, assuming this hasn't convinced you to give up on the claim that you know that Plato taught Aristotle, it's plausible to think that you know Plato taught Aristotle even though there is a non-zero epistemic chance for you that Plato did not.

It's for reasons like these that many philosophers have been persuaded to accept Fallibilism. This view, however, is not without its problems. David Lewis, as he is prone to do, cuts to the core of the issue:

If you are a contented fallibilist, I implore you to be honest, be naïve, hear it afresh. 'He knows, yet he has not eliminated all possibilities of error.' Even if you've numbed your ears, doesn't this overt, explicit fallibilism still sound wrong?<sup>15</sup>

Put another way:

If Fallibilism is true, then there is nothing wrong with saying sentences of the form, "I know that  $p$  but there is a chance that  $\neg p$ ," or "I know that  $p$  but it's possible that  $\neg p$ ."

Clearly there is something wrong with saying such sentences.  
So, Fallibilism is false.

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<sup>15</sup> Lewis (1996).

Of course, the committed Fallibilist could bite the bullet right here and calmly reply that sentences like the one in the consequent of the conditional seem just as natural in her mouth as ‘Snow is white’, but it would be better if there were a way to respond to this objection without stubbornly denying that there is a problem in the first place.

A better response would be to take the following strategy to deny the conditional. There are many reasons for which it might be wrong to say some sentence, only one of which is that the sentence in question is false. Accordingly, the Fallibilist can still accept that there is something wrong with any assertion of the form, “I know that  $p$ , but possibly  $\neg p$ .” It’s only that the Fallibilist cannot say that what is wrong with such sentences, in cases where the subject fallibly knows  $p$ , is that they are false.

It can be wrong to say particular sentences for lots of other reasons. For example, often saying a true sentence is rude or immoral. However, this helps the Fallibilist little since the problem is with a sentence type, not a sentence token, and clearly there will be some instances of this sentence type that won’t be rude or immoral. For example, if one were to say, “I know that Plato taught Aristotle, but possibly Aristotle wasn’t taught by Plato,” when no one was around.

A more plausible route for the Fallibilist to take is to say that sentences of the form, “I know that  $p$  but possibly  $\neg p$ ” are bad to say because they have a false implicature. That is, such sentences aren’t bad to say because they are false, but because they imply something that is.

This sounds promising, but can the Fallibilist fill out the details in a plausible way? Here’s an attempt:

The reason ‘I know that  $p$  but it’s possible that  $\neg p$ ’ seems wrong is that uses of ‘it’s possible that  $\neg p$ ’ in standard conversation impart that there is a significant possibility or chance that not- $p$  and not merely the sort that accompanies all fallible knowledge. Why should this explain the oddity?

We are told: ‘a significant chance of error may well prevent one from knowing’.<sup>16</sup>

That is, when one asserts a sentence of the form, “I know that  $p$  but it’s possible that  $\neg p$ ,” one implies that  $\neg p$  is a significant possibility. And, knowing  $p$  is incompatible with there being a significant possibility that  $\neg p$ , so anytime someone asserts a sentence of the form, “I know that  $p$  but it’s possible that  $\neg p$ ,” they will always imply a falsehood.

It’s clear that this account is heavily dependent on understanding what it means for some possibility to be significant. One way to go here is to say that whenever a possibility attains some fixed degree of epistemic probability, probability given one’s evidence, then it counts as a significant possibility.

Here’s what Fantl and McGrath say about going this way:

This account will not do. In some cases, where much is riding on how you act, depending on whether  $p$  is true or not, even a small chance of error must be taken seriously. In such situations, people will be prepared to say ‘Although it is very unlikely, it might be that  $p$ ’. This use of ‘it might be that  $p$ ’ does not conversationally impart that there is a large chance of error, since it is well-known to all involved that there is only a very small chance. But, in such situations, they do imply that the chance error is significant.<sup>17</sup>

Their view here is that the degree of epistemic probability that makes some possibility count as significant is shifty. For example, some possibility,  $p_1$ , could have an epistemic probability of .01 and be significant, while another possibility,  $p_2$ , could have that same epistemic probability as  $p_1$ , but not be significant.

It’s plausible that the standards for knowledge are shifty if the shifty view of significance is correct. To see this clearly, consider that on Fallibilism the minimum

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<sup>16</sup> Dougherty and Rysiew (2009).

<sup>17</sup> Fantl and McGrath (2009), 22.

evidential standard for knowledge of  $p$  is whatever level of evidence that just rules out all of the significant  $\neg p$  possibilities. If the shifty account of significance is true, then the level of evidence that just rules out the significant possibilities is shifty. If the level of evidence that just rules out the significant possibilities is shifty, then knowledge standards are shifty. Thus, shifty knowledge standards follow from a shifty account of significance.

Now we're in a position to see that one might be motivated to think that standards for knowledge are shifty if one were a Fallibilist that found the shifty account of significance plausible.<sup>18</sup>

### ***Motivation Three: Knowledge Action Principles***

Some have proposed that there's important link between knowledge and action by accepting something in the neighborhood of the following principle:

If S knows that  $p$ , then it is rational for S to act as if  $p$ .<sup>19</sup>

Using this principle one can test various cases to see if S knows that  $p$  by asking whether S is rational to act as if  $p$ . If S is not rational to act as if  $p$ , then it follows from the knowledge action principle that S doesn't know  $p$ .

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<sup>18</sup> It turns out that these considerations only motivate the Pragmatic Encroacher's acceptance of shifty knowledge standards. Some Contextualists have a different way to salvage fallibilism, namely, they think that mentioning the possibility of error updates the context of utterance and makes the knowledge assertion false. Such a Contextualism is compatible with fallibilism, since there are contexts of utterance such that one can say truly that one knows  $p$  while there is a chance of error that  $p$  is false. It's just that none of these contexts are ones where the speaker says anything about the possibility that  $p$  is false.

<sup>19</sup> cf. Hawthorne and Stanley (2008), Ross and Schroeder (2012), and Fantl and McGrath (2002).

Plausibly there are case pairs such that the two subjects are just alike with respect to the traditional epistemic features in the following way: they both truly believe  $p$  on the basis of the same evidence, but only one of the subjects can rationally act as if  $p$ . If there is such a case pair and the knowledge action principle is true, then knowledge standards are shifty.

There are a couple of ways to think about this knowledge action principle. One can think of it as an extension of other views that motivate shifty knowledge standards, or one could take it as basic.

Shifty standards fallibilism, the view that the level of evidence required to know  $p$  is whatever level of evidence that rules out all the significant  $\neg p$  possibilities, can plausibly be extended to entail the knowledge action principle. Making this extension requires the following principle: if there's no significant possibility of  $\neg p$  for  $S$ , then it's rational for  $S$  to act as if  $p$ .

Why accept this additional principle? If it's not rational for  $S$  to act as if  $p$ , then there must be a reason why such action wouldn't be rational, and what other reason could there be other than there being some possibility that  $\neg p$  and that the probability of this possibility, combined with its gravity, makes it significant?

Once one is on board with a shifty standards fallibilism and this additional principle, one is committed to the knowledge action principle, and thus to a shifty standards view of knowledge. Notice however that the knowledge action principle in this case is not the ultimate source of motivation for shifty knowledge standards—it's shifty standards fallibilism and the additional principle that are doing all the work.

Another view that entails the knowledge action principle, and thus shifty knowledge standards is Pragmatic Credal Reductivism. Pragmatic Credal Reductivism is “an account of belief on which the minimum level of credence an agent must have to

count as believing that  $p$  under given circumstances is at least as high as the minimum level of credence that the agent would need in order for it to be rational for her to act as if  $p$  under those circumstances.”<sup>20</sup> Here again there are a pair of principles that entail the knowledge action principle, namely,  $S$  knows  $p$  in some circumstances only if  $S$  believes  $p$ , and,  $S$  believes  $p$  in some circumstances only if  $S$ 's credence is such that it's rational for  $S$  to act as if  $p$  in those circumstances. These together entail the knowledge action principle and thus shifty knowledge standards.

These two views, shifty standards fallibilism and Pragmatic Credal Reductivism, are similar in that they make  $S$ 's being able to rationally act as if  $p$  a necessary condition for  $S$ 's knowing  $p$ , but they are different in that the first makes  $S$ 's being able to rationally act as if  $p$  a necessary condition for  $S$  having sufficient evidence to know  $p$ , and the second makes  $S$ 's being able to rationally act as if  $p$  a necessary condition for believing  $p$ . It's clearly possible that there are other views that entail the truth of the knowledge action principle,<sup>21</sup> but it's beyond the scope of this project to cover all of these possibilities here.

One could also take the knowledge action principle as basic. That is, one could believe the knowledge action principle, and believe that this principle is not derived from other more basic principles. If this were the case, then the knowledge action principle would count as an ultimate motivating source for shifty knowledge standards.

Notice that the knowledge action principle isn't made in terms of knowledge ascriptions. Accordingly, Contextualists don't appeal to such a principle to motivate their brand of shifty knowledge standards. They could appeal to a similar principle that was

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<sup>20</sup> Ross and Schroeder (2012)

<sup>21</sup> For example, see Ross and Schroeder's reasoning disposition account in Ross and Schroeder (2012).

written in terms of knowledge ascriptions instead of knowledge, something like: “S knows that  $p$ ” only if “S is rational to act as if  $p$ ” when the context of these two ascriptions is the same. This, however, is clearly an awkward way to argue for the contextualist thesis since it requires being a contextualist not only about ‘knowledge’ but about ‘rational action’ as well.

## **2.2 Against Shifty Knowledge Standards**

If knowledge standards are shifty, then there is some pair of cases that satisfy [K Ascription+], [K Ascription–], and [Traditional Requirements]. The sort of cases that Pragmatic Encroachers and Contextualists have in mind just are LOW BANK and HIGH BANK. Recall however that the Strict Invariantists hold that the truth of [Traditional Requirements] will always make either [K Ascription+] or [K Ascription–] false. But, the truth of [K Ascription+] and [K Ascription–], according to the fans of shifty standards, is intuitive once one has considered LOW BANK and HIGH BANK, and the subjects in these cases are just alike with respect to the traditional epistemic features. Strict Invariantists, then, must either deny these intuitions or argue that the intuitions that Kiarra speaks truly in both cases are really intuitions about something else. Strict Invariantists have proposed an alternative interpretation of the bank case intuitions that incorporates what they call warranted assertibility maneuvers or WAMs.

### ***An Effective WAM***

Keith DeRose writes:<sup>22</sup>

Suppose, for instance, that Ringo wants to borrow a certain book, and he asks Paul whether the book is in Paul’s apartment. If Paul knows full well that the book is there, it would be somehow wrong for him to answer, ‘It’s possible that

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<sup>22</sup> The following section is a largely a summary of parts of chapter three of DeRose (2009).

it's there'. Indeed, pre-theoretically, many feel some tendency to say that Paul would then be saying something false.<sup>23</sup>

Now suppose that Paul knows that the book isn't in his apartment and he asserts that, 'It's possible that it's there.' Less contentiously than the former case, it seems that this assertion is false.<sup>24</sup>

Given this data, one might be tempted towards a 'Don't Know Either Way' account of 'It's possible that  $p_{ind}$ '.<sup>25</sup>

DKEW: S's assertion, 'It's possible that  $p_{ind}$ ' is true iff (1) S doesn't know that  $p$  is false and (2) S doesn't know that  $p$  is true.

But, DeRose urges, we should resist such temptation and instead go in for the simpler 'Don't Know Otherwise' principle:

DKO: S's assertion, 'It's possible that  $p_{ind}$ ' is true iff S doesn't know that  $p$  is false.

Why go in for DKO over DKEW? First, there is something suspicious about the intuition that Paul speaks falsely when he says "It's possible that it's there" when he knows that the book is in his apartment. This suspiciousness can be brought out by considering that it's also intuitive to think that the denial of this assertion is false as well. For example, if Paul were to have instead said, "It's impossible that the book is in my apartment," while knowing that the book is in his apartment, it's intuitive that Paul would speak falsely. This is troubling because if the explanation of what's wrong with an assertion is that it's false, then asserting the denial of that assertion should be fine. But, in

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<sup>23</sup> DeRose (2009), 86.

<sup>24</sup> To make this clear, let's stipulate that the sense of possibility in play in Paul's assertion is epistemic.

<sup>25</sup> The 'ind' subscript just indicates that the embedded  $p$  is to be kept in the indicative mood.

this case asserting the denial is not fine, so that indicates that the assertion isn't bad because it's false, but for some other reason.

Second, there's a plausible alternative explanation of the wrongness or badness of Paul's assertion that is compatible with the assertion's being true. That is, it might be the case that Paul's assertion is bad because it generates a false implicature. This is a promising proposal because it gives a satisfying response to the person who had the intuition that Paul's assertion was false—they were correctly detecting falsity, just in the wrong place.

What's a good candidate for a false implicature of Paul's assertion? A natural thought is that in normal conversations when one asserts an instance of, "It's possible that  $p$ ," one implies that one doesn't know  $p$ . If it turns out that one does know that  $p$ , then this implicature is false. Fortunately, this is exactly the state of things in the case of Paul's first assertion. The plausibility of this explanation is further supported by the fact that it's a well-known Gricean Maxim that "when you're in a position to assert either of two things, then, other things being equal, if you assert either of them, you should assert the stronger."<sup>26</sup> The gist here is that Paul's assertion is not wrong because it's false, but because Paul is not warranted in asserting it due to the fact that it will generate a false implicature. Such explanations are called warranted assertibility maneuvers or WAMs.

Lastly, this particular WAM is plausible because it explains away the apparent falsity of an assertion by appealing to a false implicature that it generates. "By contrast, it seems much more problematic to claim that an assertion that seems true is in fact false by means of a claim that, though the assertion itself is false, it generates a true implicature

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<sup>26</sup> Grice and White (1961), 132.

and is therefore a warranted assertion.”<sup>27</sup> The thought here is that once we detect something bad going on in some assertion, whether it be the falsity of the proposition asserted or a false implicature, it’s immediately intuitive that such an assertion is a bad one. Accordingly, just because one aspect of an assertion is good, it doesn’t make it intuitive that the whole assertion is good.

### *WAMs and Shifty Knowledge Standards*

Strict Invariantists deny either [K Ascription+] or [K Ascription–] given [Traditional Requirements]. That is, Strict Invariantists claim that even though each assertion that Kiarra makes at the end of each bank case is intuitively felicitous, one of them is false. Which one is false? This depends on the sort of Strict Invariantist. The Skeptical Invariantist is a Strict Invariantist that thinks the standards for knowledge are high, so high that Kiarra’s statement in LOW BANK is false. The Moderate Invariantist is a Strict Invariantist that doesn’t think the standards of knowledge are so high. Knowledge standards are low enough that Kiarra’s statement in HIGH BANK is false.<sup>28</sup>

Let’s consider Moderate Invariantism. It follows from this view that [K Ascription–] is false. That is, when Kiarra says in HIGH BANK that she doesn’t know the bank is open on Saturday, her assertion is false. However, it’s intuitive that this assertion is true. How can the Moderate Invariantist capture both of these data points? Suggestion:

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<sup>27</sup> DeRose (2009), 114.

<sup>28</sup> Admittedly, the way I’ve given the distinction between these two sorts of Strict Invariantism is a little misleading. There are many, many more than just two views here. To be precise, for every position at which one could place an evidential threshold, there is a Strict Invariantist view. Such precision is unnecessary for present purposes. It is enough for now to simply say that some versions, namely the skeptical versions, of Strict Invariantism block us from having ordinary knowledge, the knowledge Kiarra putatively has in LOW BANK, and other versions, namely the moderate versions, allow for ordinary knowledge.

The Moderate Invariantist can use a WAM to explain away the intuition that Kiarra's assertion is true.

It'd be nice if the Moderate Invariantist could use a WAM that was structurally the same as a WAM that's already proven effective. That is, it'd be nice if whatever WAM that the Moderate Invariantist uses to explain away the intuition that Kiarra asserts truly in HIGH BANK had the same features that the WAM had that explained why Paul's assertion is intuitively false.

To summarize earlier claims: the WAM that explains why Paul's assertion is intuitively false is plausible for three reasons.

[Apparent Falsity]: It explains away the apparent falsity of an assertion— not the apparent truth.

[Generality]: The assertion in question generates the implicature by appeal to very general rules.

[Conflict]: There's a conflict of intuitions concerning the assertion of the proposition in question and the supposed assertion of the denial of the proposition in question.

Is there any WAM that explains away the intuitive truth of Kiarra's assertion in HIGH BANK that has these features? It can't meet the [Apparent Falsity] requirement because, unlike Paul's assertion, Kiarra's assertion isn't apparently false; it's apparently true. It's this apparent truth that the WAM needs to explain away.

It's not obvious what general conversational rule would generate a true implicature in the case of Kiarra's assertion. That is, it's not clear how the WAM that the Moderate Invariantist needs will meet the [Generality] requirement.

It's also unclear whether there's a conflict of intuitions concerning Kiarra's assertion that she doesn't know the bank is open on Saturday in HIGH BANK and the

supposed assertion of the denial of this same proposition by Kiarra in the same context. That is, it's not clear how the WAM that the Moderate Invariantist needs meets the [Conflict] requirement. Perhaps some Moderate Invariantists have the intuition that if Kiarra had said, "I know the bank is open on Saturday," in HIGH BANK then her assertion would still be intuitively true. For what it's worth, I don't have this intuition at all, but intuitions differ among philosophers, so that's not a deep problem. There is a little problem here though. The conflict of intuitions in the case of Paul's assertion was quite strong, and this is part of what made the WAM in that case so plausible. So, the weaker the conflict of intuitions, the weaker the plausibility of the WAM.

So it seems that any WAM that the Moderate Invariantist might use to explain away the intuition that Kiarra speaks truly in HIGH BANK will not clearly have any of the features that made the WAM in the case of Paul's assertion so plausible. Furthermore, it clearly will not meet the [Apparent Falsity] requirement, since it's the apparent truth, not the apparent falsehood, that needs to be explained away in the case of Kiarra's assertion.

At this point it seems reasonable for the Moderate Invariantist to complain by saying something like, "This is, of course, what we'd expect to happen if we let Keith DeRose, the Arch-Contextualist, lay out the principled reasons that qualify effective WAMs, maybe we should figure out another set of principled reasons that qualify effective WAMs. For that matter, why do we need principled reasons at all?"

### ***Why We Need Principled Reasons***

If there are no principled reasons that qualify effective WAMs, then WAMs could be used to defend extremely implausible positions. Consider, for example, the view that S knows  $p$  iff S believes  $p$ . This theory is clearly no good because it fails to impose the alethic requirement on knowledge. Thus when someone, say Smith, asserts an instance

of, “S knows that  $p$ ” when Smith believes  $p$  and  $p$  is false, then according to this view, Smith’s assertion is true. But, critics of this view complain: this view can’t be right because it’s highly intuitive that Smith’s assertion is false.

This, however, shouldn’t worry the proponent of the belief knowledge equivalence theory, since she can explain away this intuition that Smith’s assertion is false using a WAM. Here’s how such a WAM would go: hold that whenever someone asserts an instance of, “I know that  $p$ ” it generates an implicature that  $p$  is true. So, whenever someone asserts an instance of, “I know that  $p$ ” when  $p$  is false, such an assertion will intuitively strike us as false, not because it is false, but because it generates a false implicature.

It is because of defenses like these that principled reasons that qualify an effective WAM are needed. Notice that if one used DeRose’s principled reasons that qualify an effective WAM, one could dismiss this defense of the belief knowledge equivalence theory. Although it meets the [Apparent Falsity] requirement, it clearly and violates the [Generality] and [Conflict] requirements.

### *An Invariantist Response*

None of this entails that there isn’t an effective WAM that the Moderate Invariantist can make use of to explain away the intuitive support for Kiarra’s assertion in HIGH BANK. It does, however, show that if there is such a WAM, it must meet some requirements that silly WAMs, like the one used to defend the belief knowledge equivalence theory, do not meet.

Jessica Brown attempts to show that there is such a WAM in her paper “Contextualism and Warranted Assertibility Manoeuvres.”<sup>29</sup> She employs the following

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<sup>29</sup> Brown (2006)

strategy. First she argues that the [Apparent Falsity] requirement on effective WAMs isn't actually a requirement. Then she argues that there is a WAM that explains away the truth of Kiarra's assertion in HIGH BANK that can meet the [Generality] and [Conflict] requirements.

As a warmup for dismissing the [Apparent Falsity] requirement Brown draws our attention to cases of hyperbole. Hyperbolic assertions just are assertions of falsehoods that have a true implicature. For example, when you say, "I'm so hungry I could eat a horse," it's clear that you speak falsely, but it's also clear that you are exaggerating and that you are generating a true implicature: that you are very hungry. Often hyperbolic assertions are felicitous. Suppose that S felicitously asserts, "I'm so hungry I could eat a Clydesdale," and then proceeds deduce from her assertion that she can eat a horse.

But, it's obviously false that any human could eat a horse. So, why doesn't this assertion strike us as infelicitous—even once we consider this entailment? A WAM can be employed to solve this puzzle. That is, one could say that S's assertion is in fact false and S is warranted to assert it only because it generates a true implicature.

So a WAM can be effectively used to explain away the apparent truth of hyperbolic statements. This spells trouble for the [Apparent Falsity] requirement. But, this isn't a deep problem since this requirement can be reformulated to side step this objection. Consider:

[Apparent Falsity\*]: Except in the case of figurative assertions, an effective WAM can only explain away the apparent falsity, not the apparent truth of an assertion.

This reformulated requirement can plausibly be used to defend shifty knowledge standards from the Strict Invariantist's WAM criticism since, to take the particular cases of this paper, neither of Kiarra's assertions LOW BANK and HIGH BANK are figurative.

Can [Apparent Falsity\*] be dismissed as a requirement for an effective WAM? Brown argues that it can by appealing to two previous lines of work in philosophy of language: Kripke's defense of the Russellian view of definite descriptions against Donnellan's objection and Bach's idea of Implicature.

On the Russellian view of definite descriptions, the semantic value of 'the F' is equivalent to that of 'the unique F'. Thus, the semantic value of, "The man in the corner drinking a martini is a lawyer," is equivalent to, "There is a unique man in the corner drinking a martini and he is a lawyer." Donnellan (1966) argued against this position by pointing out that "definite descriptions may be used 'referentially' to refer to a salient object regardless of whether that object uniquely fits the description."<sup>30</sup>

A Russellian can escape this criticism by employing a WAM. For example, consider the following assertion, "The man in the corner drinking a martini is a lawyer." Also, it turns out that the salient person,  $S_1$ , referred to by this assertion is a lawyer, but happens to be drinking water out of a martini glass, and there is another man,  $S_2$ , that's standing behind  $S_1$ , who uniquely satisfies the relevant description but is not a lawyer. According to the Russellian view, this assertion is false. However, it's apparently true. The Russellian can employ a WAM to explain away the apparent truth of this assertion by appealing to the true implicature that it generates.<sup>31</sup>

Insofar as it's plausible that this is an effective WAM, it's also plausible that [Apparent Falsity\*] is not a requirement for an effective WAM since this particular WAM violates [Apparent Falsity\*].

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<sup>30</sup> Brown (2006), 415.

<sup>31</sup> Not only is this response available, but some philosophers have employed it. For example, see Kripke (1977).

Kent Bach's idea of implicature is another reason to reject that [Apparent Falsity\*] is a requirement for an effective WAM. To catch onto this idea, consider a case where S utters, "I have eaten." In normal conversational contexts, this statement is felicitous only if S has eaten recently. "However, there is no obvious component of [this] utterance which corresponds to the qualification 'recently'."<sup>32</sup> This combination of features gives semantic theorists a choice to make.

Option one: take the felicity conditions of this utterance as indicative of its truth conditions. Accordingly, the content of this utterance is not wholly determined by the constituents of the utterance—it's partially determined by extralinguistic context.<sup>33</sup>

Option two: don't take the felicity conditions of this utterance as indicative of its truth conditions. That is, one could hold the view that the content of any utterance is wholly determined by the constituents of that utterance, and since the utterance in question has no "recently" qualification among its constituents the utterance in question is true if and only if S has eaten at some time or other. This is the view expressed in Bach (1994).

One might object to Bach's view by appealing to the following case:

Ivan and Diamanda run into each other on campus. Ivan thinks Diamanda is cute, and he's wondering whether she would like to get lunch with him, so he asks her, "Have you eaten?" She is also interested in him, so she says, "I haven't eaten," and it's true that she hasn't eaten recently.

Diamanda's utterance is clearly felicitous. The option one theorist has no problem explaining this—it's felicitous because it's true. Bach's view does however seem to have a problem, since he's committed to the falsity of Diamanda's utterance. His solution is to

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<sup>32</sup> Brown (2006), 417

<sup>33</sup> This view is advanced in Sperber and Wilson (1986) and Carston (2013).

explain away the apparent truth of Diamanda's utterance by using a WAM. That is, Diamanda's utterance is felicitous because it generates a true implicature, even though the proposition she utters is false.

Bach coined the term 'implicature' to cover such examples. Notice that if Bach's view is correct, then [Apparent Falsity\*] isn't a requirement for an effective WAM. So, if Bach's view is correct or if the Russellian defense against Donnellan's objection is correct, [Apparent Falsity\*], and all the more [Apparent Falsity], aren't requirements for an effective WAM. Remember that meeting the [Apparent Falsity] requirement was the clearest challenge for the Moderate Invariantist who wants to explain away the apparent truth of Kiarra's assertion, "I don't know that the bank is open on Saturday" in HIGH BANK, and now it's clear that the Moderate Invariantist has some respectable ways of getting around this requirement.

Next Brown proposes a WAM that is able to explain away the apparent truth Kiarra's assertion in HIGH BANK that satisfies the [Generality] and [Conflict] requirements. Call this WAM Brown's HIGH BANK WAM. Brown argues that this WAM meets the [Conflict] requirement because there are suitable conflicts of intuitions concerning knowledge claims. She does this by using the dialectically effective strategy of pointing out that Contextualism is itself motivated by conflicting intuitions. Brown writes,

...the sceptic's denial that one knows that one is not a BIV seems plausible. Combining this denial with closure, it follows that one lacks knowledge that one has hands. But, in opposition to this, it seems highly plausible that one does know such ordinary propositions as that one has hands.<sup>34</sup>

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<sup>34</sup> Brown (2006), 411.

Because of this Brown says that the [Conflict] requirement is satisfied for WAMs like her HIGH BANK WAM. This is a mistake, and she's made this mistake because she construes the [Conflict] requirement too generally. In her paper she characterizes the [Conflict] requirement thus: "...a successful WAM ... should start from a conflict of intuitions which requires explanation."<sup>35</sup> The [Conflict] requirement is more specific than this, and while the conflicting skeptical intuitions that motivate Contextualism do call for an explanation, they're not the sort of conflict of intuitions that satisfies [Conflict]. This isn't a deep problem for Brown, since it's easy to say what she needs to have said for her point to go through.

We're starting with the data point that Kiarra's assertion, "I don't know that the bank is open on Saturday," in HIGH BANK is intuitively true. Now consider another case, HIGH BANK DENIAL which is just like HIGH BANK except that Kiarra asserts the denial of the proposition that she asserted in HIGH BANK. That is, in HIGH BANK DENIAL Kiarra asserts, "I know the bank is open on Saturday." What's needed to show that Brown's HIGH BANK WAM satisfies [Conflict] is that Kiarra's assertions both in HIGH BANK and HIGH BANK DENIAL are intuitively true.

Is Kiarra's assertion in HIGH BANK DENIAL intuitively true?<sup>36</sup> This is a contentious matter, but let's suppose that many philosophers have, or at least reporting having this intuition. Regardless, it's not completely implausible to think that Kiarra's assertions in both HIGH BANK and HIGH BANK DENIAL are intuitively true. If this is right, then Brown's HIGH BANK WAM satisfies the [Conflict] requirement.

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<sup>35</sup> Brown (2006), 410.

<sup>36</sup> I can only get the faintest glimmers of this intuition.

This leaves the [Generality] requirement. So far Brown's HIGH BANK WAM has only been characterized as the WAM that explains away the apparent truth of Kiarra's assertion in HIGH BANK. To see how this WAM might satisfy the [Generality] requirement, we'll need to get more specific. In order to do this, it's helpful to consider another case.

MATH TESTIMONY: Diane is working on a math problem and she can't determine the answer. The problem is multiple choice. There are three answer choices: a, b, and c. First Diane goes and asks her teacher for help, and he helps her by telling her truly that the answer is not a. Then she talks with another student, Josh, about the problem. Here's the thing about Josh, he's really good at math and he never lies. Josh tells Diane that he hasn't figured out the answer yet, but he has figured out that the answer is not b. After saying this, Josh asks Diane whether she knows the answer to the math problem and she replies by asserting, "I don't know the answer to the math problem." Furthermore, Diane truly believes on the basis of testimonial evidence and deductive reasoning that the answer to the math problem is c.<sup>37</sup>

Let's consider Diane's assertion. There's something good about it, and there's something bad. The assertion seems bad because she truly believes on the basis of excellent testimony and deductive reasoning that the answer is c. Shouldn't this be enough to know the answer? This assertion seems good because, after all, Diane can't do the math. She has no idea why, in mathematical terms, the answer is c.

Here's a plausible explanation of what's going on in this case. Diane's assertion seems bad because it's false. Diane does know the answer. Her assertion seems good because if she were to assert its denial, that is, if she were to assert, "I know the answer to the problem," then this assertion would generate a false implicature. In particular it generates the implicature that she knows the answer because she knows how to work out the problem mathematically. We can see that this implicature is generated by appealing to

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<sup>37</sup> Thanks to Josh Dever for suggesting this sort of case.

a very general rule, namely, Grice's rule of relevance. The conversational context of math testimony is one where people are working out math problems, and so one's assertion that one knows the answer to a problem is relevant only if one knows how to get that answer mathematically. Thus, if Diane were to assert that she knows the answer, her assertion would generate the implicature that she knows how to get the answer mathematically.

That is, a plausible explanation of what's going on in MATH TESTIMONY is that Diane's assertion is true, but she's not warranted to assert it because it generates a false implicature. Notice that the WAM in this case clearly meets the [Generality] requirement, since it appeals to Grice's rule of relevance.

Brown holds that her HIGH BANK WAM can similarly meet the [Generality] requirement by appealing to Grice's rule of relevance. Here's how her explanation goes.

The Moderate Invariantist holds that, in both LOW BANK and HIGH BANK, there is a context invariant level of evidence required for Kiarra to know. On this view the knowledge ascriptions in both LOW BANK and HIGH BANK are true. However, the Moderate Invariantist argues that in HIGH BANK Kiarra's assertion generates the implicature that her evidence is stronger than it in fact is by appeal to Grice's rule of relevance. Because it's practically very important in HIGH BANK that Kiarra deposit the check before Monday, what's conversationally relevant in this situation is very strong evidence—evidence that's strong enough to rule out possibilities that are so unlikely that they don't undermine knowledge. As a result of this, Kiarra's assertion, "I don't know that the bank is open on Saturday," pragmatically conveys a truth: that Kiarra does not have good enough evidence to rule out the super unlikely possibilities that entail the bank is closed on Saturday that are now relevant because of the practical features of the case, but are not knowledge undermining. Accordingly, it's plausible that Kiarra's assertion

appears true even though it's in fact false because it generates a true implicature. In this way, the Moderate Invariantist can explain away the intuition that Kiarra's assertion in HIGH BANK is true.<sup>38</sup>

If this explanation is successful, then Brown's high bank WAM satisfies the [Generality] requirement. So, the Moderate Invariantist has reasons for dismissing the [Apparent Falsity] requirement, and an example of a WAM that plausibly satisfies the [Generality] and [Conflict] requirements. This clearly allows the Moderate Invariantist to undermine the motivation for shifty knowledge standards from the bank cases, and the damage doesn't stop there.

In particular, Brown's HIGH BANK WAM, if successful, generates a counterexample to the knowledge action principle since according to it there is a subject that knows  $p$  but is not rational to act as if  $p$ . Furthermore, it also allows the Moderate Invariantist to undermine the support that shifty knowledge standards gets from fallibilism. In particular, the Moderate Invariantist can, just like the Pragmatic Encroacher, adopt the view that assertions of the form "I know that  $p$ , but possibly  $\neg p$ " are all infelicitous because asserting any statement of the form "Possibly  $\neg p$ " implies that  $\neg p$  is a significant possibility. The Moderate Invariantist differs from the Pragmatic Encroacher in that she thinks that knowing  $p$  is compatible with the significant possibility of  $\neg p$ ; statements of the form "I know  $p$ , but possibly  $\neg p$ " are always infelicitous because being warranted to assert  $p$  is incompatible with the significant possibility of  $\neg p$ . Thus an

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<sup>38</sup> The following paragraph is a paraphrase of Brown (2006), 425-426. I've made several changes to make what Brown says to fit the content of this paper, but these changes are nominal. For example, I've changed 'non-sceptical invariantist' to 'Moderate Invariantist' and I've continued glossing 'strength of epistemic position' with evidence.

effective WAM can be used to undermine all of the motivations for shifty knowledge standards.

Of course, there are places for the defenders of shifty knowledge standards to push back, and there are also other possible WAMs that work in different ways, but pursuing all of these is beyond the scope of this paper.

### **2.3 Against Contextualism**

We've now seen motivating reasons for accepting both [K Ascription+] and [K Ascription-] given [Traditional Requirements], and we've also seen the initial shape of the objections to such reasons. Now let's consider what the motivating reasons are for accepting [Disquotation+] and [Disquotation-]. That is, let's consider the reasons that might motivate one to reject Contextualism.

#### ***An Anti-Contextualist Argument***

If the content of 'know' can vary within a single discourse, then the following discourse, and ones similar to it, should sound fine.

KNOWLEDGE DISCOURSE

A: I know that the bank is open on Saturday.

B: But, if the bank is closed on Saturday, then you'll lose your house. Can you rule out the possibility that the bank has changed its hours?

A: I guess I can't rule that out.

B: So you admit that you don't know that the bank is open on Saturday, and so you were wrong earlier?

A: I wasn't wrong earlier. I knew that the bank was open on Saturday since I wasn't considering that I could lose my house and that the bank's hours could

have changed. Of course, now that I'm considering those possibilities, I don't know that the bank is open on Saturday.<sup>39</sup>

This discourse doesn't sound fine. In particular, A's final utterance is very strange and sounds false at worst or infelicitous at best.

However, if the content of 'know' can vary within a single discourse, then it'd be surprising if A's final utterance didn't sound fine. Here's why. When A makes his first utterance, the context of utterance is such that the evidential requirement for A to truly say that he knows that bank is open is low, and so A can know that the bank is open with fairly weak evidence. B's first utterance updates the context and raises the evidential requirement such that A's evidence is no longer strong enough to allow him to truly say that he knows the bank is open on Saturday. In light of this, A's final utterance can be taken in the following way: A doesn't know by the post-update evidential requirement on knowledge that the bank is open on Saturday, but A's first utterance was made before this update raised the evidential requirement on 'know', and before that update, A's knowledge ascription was true. Thus this discourse presents a challenge for Contextualism.

One might think that 'know' can vary within a single discourse, it's just that the above discourse sounds bad because we are having trouble keeping track of all the complicated details—not because 'know' is context invariant. If this were the case, that is if the trouble with this discourse were with us and not the discourse itself, then we'd expect there to be similar troubles with similar discourses—even when the word with the

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<sup>39</sup> This discourse is patterned after a similar discourse of Jason Stanley's from, Stanley (2005), 52. In fact, this Anti-Contextualist argument is roughly taken from Stanley (2005) chapter 3.

shifting content is a word that's obviously context sensitive. That is, if this response is correct, then we'd expect to find the following discourse problematic:

POSSIBILITY DISCOURSE

A: It's possible to fly from London to New York City in 30 minutes.

B: That's absurd! No flights available to the public today would allow you to do that. It's not possible to fly from London to New York City in 30 minutes.

A: That's correct.

B: So you admit that it's not possible to fly from London to New York City in 30 minutes, and so you were wrong earlier?

A: I wasn't wrong earlier. It's possible to fly from London to New York City in 30 minutes when one considers, in addition to what technology is available to the public, all existing technology. Of course, if one only considers what technology is available to the public, then it's not possible to fly from London to New York City in 30 minutes.<sup>40</sup>

A's final utterance in POSSIBILITY DISCOURSE, especially in comparison to A's final assertion in KNOWLEDGE DISCOURSE, doesn't seem problematic. So, it's not plausible that the problem with knowledge discourse is a problem with the reader. It's much more plausible that the problem with KNOWLEDGE DISCOURSE is that the content of the word 'know' can't vary within a single discourse.

This, at least at first, seems to be bad news for Contextualism. After all, it would be good news for the Contextualist if KNOWLEDGE DISCOURSE read just as easily as POSSIBILITY DISCOURSE. However, the infelicity of A's last utterance in knowledge discourse is not enough to show that Contextualism is false, since Contextualism is not

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<sup>40</sup> Stanley (2005), 53.

the view that ‘know’ can vary within a single discourse. Contextualism is just the claim that the content of knowledge ascriptions varies with the context of utterance, and one can be a Contextualist while denying that ‘know’ can vary willy nilly within a single discourse. This is the way that DeRose responds to the infelicity of utterances like A’s final utterance in knowledge discourse. For example, in DeRose (1992): 925, he writes,

The contextualist believes that certain aspects of the context of an attribution or denial of knowledge attribution affect its content. [...] If in the context of the conversation the possibility of painted mules has been mentioned, and if the mere mention of this possibility has an effect on the conditions under which someone can be truly said to ‘know’, then any [subsequent] use of ‘know’ (or its past tense) is so affected, even a use in which one describes one’s past condition.

According to this, the content of ‘know’ can’t, at least in one sense, vary within a single discourse. Namely, if the context shifts such that the evidential requirement for ‘know’ is raised in a discourse, then all subsequent uses of ‘know’ are evaluated according to this new and higher evidential standard in that discourse. Call this view Know is Discourse Semi-Invariant, or KDSI.<sup>41</sup> KDSI is enough to explain the infelicity of A’s final utterance in knowledge discourse while maintaining Contextualism’s truth. Specifically, A’s assertion that he knew earlier is evaluated according to the higher evidential standards, and, thus, is false.

While it’s clear that Contextualism, when restricted by KDSI, can account for the intuitions in the above discourses, other discourses are less obviously accommodated. For example, imagine a new discourse that’s just like KNOWLEDGE DISCOURSE except that A’s final assertion is changed to:

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<sup>41</sup> Importantly, KDSI doesn’t entail Contextualism. Indeed, invariantists of all stripes should accept this view since they deny the antecedent.

A: I didn't say that I knew the bank was open on Saturday. I wasn't considering the possibility that the bank had changed its hours.

This new assertion, in the context of the above discourse, still sounds bad. In fact, it's hard to make sense of it except as a lie. Does KDSI predict that this assertion will sound bad? Not obviously. According to KDSI the content of 'know' in A's first assertion, is different from the content of 'know' in A's final assertion. To make this difference obvious, let's use know<sub>low</sub> for 'know' in A's first assertion, and let's use know<sub>high</sub> for 'know' in A's final assertion. Thus according to KDSI, A's first assertion is understood as:

A: I know<sub>low</sub> that the bank is open on Saturday.

And A's second assertion is understood as:

A: I didn't say that I know<sub>high</sub> the bank was open on Saturday. I wasn't considering the possibility that the bank had changed its hours.

On KDSI what's wrong with this final assertion? A is just saying that he didn't say in his first assertion that he knew<sub>high</sub>, and this seems correct, since he only said that he knew<sub>low</sub>.

But things get tougher still for the Contextualist who incorporates KDSI into her view when we consider another discourse that is just like KNOWLEDGE DISCOURSE except that A's final assertion is changed to:

A: I didn't say that I was wrong. I wasn't considering the possibility that the bank had changed its hours.<sup>42</sup>

This version of the discourse presents a further problem in that there is no occurrence of 'know', past tense or otherwise, for the newly fixed context of utterance to

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<sup>42</sup> This version of the discourse very closely resembles Stanley's Zoo case on page 52 of Stanley (2005).

affect in the final assertion. Yet, this final assertion refers back to an earlier point in the discourse—a point at which the evidential standards were still low. Thus, according to KDSI, this new final assertion should sound fine, but it doesn't, which presents a challenge for the Contextualist, even if she incorporates KDSI into her view.

There is a solution available for the Contextualist. Specifically, the Contextualist could say that if the context shifts in a way that affects the content of 'know', not only are all subsequent occurrences of 'know' in that discourse affected, but so too are all previous occurrences. Call this view: Know is Discourse Invariant, or KDI.<sup>43</sup>

KDI can explain why A's final assertions in all three versions of the discourse we've considered sound bad. Namely, prior to the context shift, A says that he knows<sub>low</sub> that the bank is open on Saturday, which is true. Then the context shifts such that all subsequent and previous occurrences of 'know' within the discourse become know<sub>high</sub>, including A's original assertion. Thus, if A tries in any of the above ways to say that his first assertion was a good one, this attempt will sound bad because the first assertion is at that point false.

While adding these restrictions to Contextualism resolves one problem, it opens the door for another. The source of this new problem: the content of a very diverse selection of context sensitive words can vary within a single discourse. This claim, of course, requires support. We've already seen from POSSIBILITY DISCOURSE that the content of modals can vary within a single discourse. What about gradable adjectives like 'rich'?

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<sup>43</sup> Again, it's important to notice that KDI doesn't entail Contextualism, since invariantists can happily accept it by denying it's antecedent.

GRADABLE ADJECTIVES DISCOURSE

A: He is rich.

B: He can't afford a house on the Vineyard.

A: I see your point.

B: So you admit that you were wrong when you said he was rich.

A: I didn't say that. I wasn't considering that level of wealth.

This discourse is one in which the content of the word 'rich' varies, and it seems perfectly coherent. So, the content of gradable adjectives can vary within a single discourse. What about demonstratives?

DEMONSTRATIVE DISCOURSE

That is larger than that.

Clearly if one is pointing at two different objects, this (short) discourse is perfectly coherent. Thus the content of 'that' can vary within a single discourse. What about context-sensitive determiners?

CONTEXT SENSITIVE DETERMINERS DISCOURSE

In Atlanta, there are many serial killers but not many unemployed men.

This discourse is one in which the content of the word 'many' varies, and it seems perfectly coherent even if it's true that there are more unemployed men than serial killers in Atlanta. So, the content of context sensitive determiners can vary within a single discourse. What about quantified noun phrases?

QUANTIFIED NOUN PHRASE DISCOURSE

Every sailor waved to every sailor.

If we take this sentence to have the same content as, "Every sailor on one ship waved to every sailor on another ship," then this discourse is one in which the content of

the word ‘every’ varies, and it seems perfectly coherent. So, the content of quantified noun phrases can vary within a single discourse.

Finally, let’s consider whether core indexicals like ‘I’ can have variable content throughout a single discourse.<sup>44</sup> Consider the following discourse where A is sitting and B is standing.

CORE INDEXICAL DISCOURSE

A: I am sitting.

B: That’s absurd! After all, I am not sitting.

A: That’s correct.

B: So, you admit that I am not sitting, and that you were wrong earlier?

A: I wasn’t wrong earlier. When I said that I was sitting earlier, I was talking about me—not you—and what I said was right. Of course, if I had said that you were not sitting I would have been wrong.

A’s final assertion here is perfectly fine, and if it is perfectly fine, then the content of the core indexical ‘I’ can vary within a single discourse.

Thus, if KDI is true and the content of ‘know’ can’t vary within a single discourse, then ‘know’ is unlike a very diverse selection of context sensitive words since all of the above context sensitive words can vary their content within a single discourse.<sup>45</sup>

Now, if ‘know’ is unlike all of these other types of word whose content is sensitive to the context of utterance, then it’s unlikely that ‘know’ is context sensitive. Why think this? Here’s a rationale: if ‘know’ is context sensitive, and all of these other types of context sensitive words have some feature, then we’d expect ‘know’ to have that

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<sup>44</sup> Admittedly, no Contextualists model ‘know’ after the core indexicals. Still, it’s helpful to include this discourse to strengthen the inductive argument of which it’s a part.

<sup>45</sup> This point goes through as well, though not as starkly, on KDSI.

feature as well. But, once we see that ‘know’ lacks this feature, then we reasonably doubt that ‘know’ is context sensitive. To take an analogy, if we think that some newly discovered species is a fish and we know that all other fish can breathe underwater, then we’d expect this new species to be able to breathe underwater. If it turned out that this new species couldn’t breathe underwater, that would make it unlikely that it was a fish. Of course, it’s possible that it could be a very special sort of fish, the sort that can’t breathe underwater, and likewise it’s possible that ‘know’ is context sensitive even though its content can’t vary within a discourse. But, these possibilities are strained.

So, if KDI is true, then, by this path of reasoning, it’s unlikely that ‘know’ is context sensitive. And, from this it follows that it’s unlikely that the content of knowledge ascriptions vary with the context of utterance, which is just to say that it’s unlikely that Contextualism is true. But, remember that the Contextualist needed KDI to get out of trouble with KNOWLEDGE DISCOURSE and its variations. Thus, the Contextualist faces a dilemma.

One way for the Contextualist to respond here is to go in for KDI and say that ‘know’ is context sensitive in a unique way. Of course this seems implausible when considering other types of context sensitive words, but, the Contextualist might say, there are other sources of evidence that make Contextualism likely to be true, and if this evidence is good enough then Contextualism is not as unlikely as it might seem. What is this independent source of evidence? Answer: shifty knowledge standards. If knowledge standards are shifty, then either Contextualism or Pragmatic Encroachment is true. So, if the Contextualist can show that knowledge standards are shifty and that Pragmatic Encroachment is false, then the force of this objection can be blunted. We’ve already considered the case for shifty knowledge standards above, and it’s now that we turn to a

subject that is now clearly important—the reasons that the Contextualist can appeal to in order to reject Pragmatic Encroachment.

## 2.4 Against Pragmatic Encroachment

Cases like the following are often used to object to Pragmatic Encroachment:<sup>46</sup>

H-ATTRIBUTER L-SUBJECT: On Friday, Kiarra believes that the bank will be open on Saturday. She holds this belief because she remembers that the bank was open on Saturday a few weeks ago. Also, if she were to act on this belief by waiting to go to the bank on Saturday to deposit her paycheck and the bank were closed, then something very bad would happen. Suppose that it's true the bank will be open on Saturday. In this situation, Kiarra's friend Walker, who has nothing important hanging on whether the bank will be open on Saturday, happens to be walking by her car on the sidewalk. Kiarra rolls down her window and asks him if the bank will be open on Saturday. He replies that it will be open. She then asks him why he thinks this, and he replies by saying that he remembers that the bank was open on a Saturday a few weeks ago. After this, Kiarra rolls up her window and says, "Walker doesn't know that the bank is open on Saturday."

These cases are called High-Attributer Low-Subject cases because the attributer of knowledge has much riding on the proposition in question and the subject of knowledge does not. This sort of case spells trouble for Pragmatic Encroachment because of the following combination of features:

- The circumstance of evaluation for Walker in this case is exactly similar to Kiarra's in LOW BANK, and, according to Pragmatic Encroachment, whether S knows that  $p$  depends solely on the circumstance of evaluation.
- The Pragmatic Encroacher thinks that Kiarra knows that the bank is open on Saturday in LOW BANK, so she thinks that Walker knows in this case as well.

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<sup>46</sup> Stanley (2005), 97-98, Hawthorne (2004), 159-160, DeRose (2009), 4-6.

- The Pragmatic Encroacher accepts [Disquotation+] and [Disquotation-], so she thinks that Kiarra’s assertion of, “Walker doesn’t know that the bank is open on Saturday,” is false.
- Plausibly, Kiarra’s assertion at the end of H-ATTRIBUTER L-SUBJECT not a false but felicitous assertion—it’s clearly not an instance of hyperbole for example.
- It’s plausible that Kiarra’s assertion at the end of h-attributer l-subject is felicitous.<sup>47</sup>

More quickly: Pragmatic Encroachment predicts that Kiarra’s assertion should intuitively sound bad here, and it does not.

Notice that this sort of case is grist for the Contextualist’s mill since the Contextualist thinks that the content of ‘know’ is fixed by the context of utterance, and thus when Kiarra asserts that Walker doesn’t know that the bank is open on Saturday the content of ‘know’ is supplied by her practical situation and not Walker’s. This, of course, will make her assertion true which nicely explains the intuition that her assertion is felicitous.

### *Appeal to the Knowledge Norm*

An initial attempt respond to this sort of objection appeals the knowledge norm of assertion.<sup>48</sup> The knowledge norm of assertion can be expressed with this principle: If S felicitously asserts p, then S knows p. With this in mind, suppose that Kiarra properly asserts, “Walker knows that the bank is open on Saturday,” in the above case. It would follow that Kiarra knows that Walker knows that the bank is open on Saturday. Then, it’s

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<sup>47</sup> This intuition is required to make the objection go through. If you don’t have this intuition, then you won’t feel the pull of this objection. However, it’s useful to consider this objection since the best response to it, is also the response to other objections—objections that you may find more plausible.

<sup>48</sup> Hawthorne (2004), 159-160.

tempting to reason in following way: knowledge is factive, so if Walker knows the bank is open on Saturday, then the bank is open on Saturday, therefore, Kiarra knows that the bank is open on Saturday.<sup>49</sup> But, according to Pragmatic Encroachment, Kiarra doesn't know that the bank is open on Saturday in this case. Contradiction. So, either knowledge isn't factive, the knowledge norm of assertion is false, or Kiarra didn't, indeed can't, felicitously assert that Walker knows that the bank is open on Saturday. We should embrace this last option, or so says the advocate of this response, for if Kiarra can't felicitously assert that Walker knows that the bank is open on Saturday, then it's no surprise that she refrains from making such an assertion.

This response is unsuccessful because it misses the target. According to this objection, Kiarra felicitously asserts that Walker doesn't know that the bank is open on Saturday. The appeal to the knowledge norm only secures the claim that Kiarra can't felicitously assert that Walker knows the bank is open on Saturday. Clearly there's a gap here.

What the advocate of this response needs to fill this gap is the following principle: if S cannot properly assert  $p$ , then S can properly assert  $\neg p$ . But, this principle is clearly false. Suppose I have no idea whether Sally drives a Ford, I cannot properly assert that Sally drives a Ford, but it's also true that I cannot properly assert that Sally doesn't drive a Ford either.<sup>50</sup>

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<sup>49</sup> It seems to me that factivity alone is not enough to secure this conclusion. Something like the following principle is required: If S knows that S knows  $p$ , then S knows  $p$ . This principle is not entailed by factivity, so further argument needs to be made to establish this point. Even if this principle were shown to be true, it wouldn't matter here, since this line of defense is fraught with another more obvious difficulty that's pointed out below.

<sup>50</sup> Stanley (2005) 98-99, points out this flaw in Hawthorne (2004),159-160.

### ***Error Theory: Projectivism***

A more promising response to this objection for the Pragmatic Encroacher is to say that while Kiarra correctly believes that she doesn't know that the bank is open on Saturday, she mistakenly projects her circumstance of evaluation onto Walker, and thereby mistakenly comes to believe that he doesn't know either. Accordingly, if one follows Kiarra in her mistake of projecting her circumstance of evaluation on Walker, it's plausible that one will find her assertion that Walker doesn't know felicitous as well, even though it's false.

How plausible is it that we mistakenly project our circumstance of evaluation on to others? Hawthorne makes the following point in support of this line:

...we do have some tendency to suppose that, as more and more possibilities of error become salient to us, we are reaching an ever more enlightened perspective. Thus, when we consider someone who is not alive to these possibilities we have a tendency to let our (putatively) more enlightened perspective trump his.<sup>51</sup>

If one finds this rationale compelling, then one will likely find the projectivist error theory plausible. However, the Pragmatic Encroacher should be wary of taking on any error theory of this sort, in particular the sort of error theory that says a knowledge ascription is false and only seems felicitous, since it's exactly this sort of error theory that the Moderate Invariantist uses to undermine the support that bank cases give to Pragmatic Encroachment. That is, one might worry that the position that understands the knowledge ascription in H-ATTRIBUTER L-SUBJECT as infelicitous, and the knowledge ascription in HIGH BANK as felicitous, looks precariously *ad hoc*.<sup>52</sup>

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<sup>51</sup> Hawthorne (2004), 164-165.

<sup>52</sup> Williamson (2005) is plausibly taken as expressing this sort of worry.

### *Modal and Temporal Operators*

Stanley writes, “The most obvious problem with [Pragmatic Encroachment] comes from the treatment of knowledge ascriptions in the scope of modal and temporal operators.”<sup>53</sup> Here’s an example, where Kiarra from HIGH BANK is the speaker, of a problematic knowledge ascription in the scope of a modal operator.

MODAL: “If I didn’t have a bill coming due, then I would know that the bank would be open on Saturday.”

This claim is problematic because it sounds false,<sup>54</sup> and if Pragmatic Encroachment is true, then it shouldn’t sound false.

A very similar problem can be generated using temporal operators. For example, suppose that Kiarra is the speaker in the claim below, and her practical situation is as it is in high bank except that at 6pm on Friday an anonymous donor pays off all of Kiarra’s debts. Accordingly,

TEMPORAL: “I didn’t know on Friday before 6pm that the bank would be open on Saturday, but I did know after 6pm.”

Similarly, this claim is problematic because it sounds false, and if Pragmatic Encroachment is true, then it shouldn’t sound false.

What’s going on here is fairly straightforward. Usually the time and world of the context of evaluation is the same as the time and world of the context of utterance. Modal and temporal operators can split these apart. In MODAL, the world of the context of utterance is such that much hangs on Kiarra getting the check deposited before Monday, and the world of the context of evaluation is such that not much hangs on Kiarra getting the check deposited by Monday. Since Pragmatic Encroachment is, after all, just the view

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<sup>53</sup> Stanley (2005), 106.

<sup>54</sup> If this claim doesn’t sound false to you, then you likely won’t feel the pull of this objection.

that whether S knows  $p$  is sensitive to the practical features of the context of evaluation, it follows that according to it MODAL is true.

Notice that Contextualism doesn't have this same commitment, since it holds that the meaning of 'know' is sensitive to the context of utterance and not the context of evaluation, and the modal and temporal operators in the above claims don't shift the context of utterance. Thus, knowledge ascriptions in the scope of modal and temporal operators don't *prima facie* present a problem for Contextualism.<sup>55</sup>

There are a few lines of response available to the Pragmatic Encroacher here. First, the Pragmatic Encroacher could respond by saying MODAL and TEMPORAL are true, but sound bad simply because sentences like these are rarely, if ever, uttered in ordinary English. Second, this way of objecting to Pragmatic Encroachment is awfully close to just denying the view. To make this point more vivid, consider the following objection to Reliabilism:

RELIABLE: If Smith weren't in fake barn country, then he would know that there's a barn in front of him.

This claim, so the objection goes, is problematic for Reliabilism because it sounds false, and if Reliabilism is true, it shouldn't sound false.

Reliabilism, like every other epistemic theory, holds that whether S knows  $p$  is sensitive to features of S's context of evaluation. In particular whether in some context of evaluation S's belief forming process that produces S's belief that  $p$  is reliable. So, in a context of evaluation in which S's belief forming process isn't reliable, for example fake barn country, S's won't know  $p$ , and if the context of evaluation is such that there are no

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<sup>55</sup> Stanley (2005), 109-110 argues that certain versions of Contextualism do suffer from a similar problem if the claim is set up in the right way.

fake barns, then S, all other things being equal, would know *p*. This is just the view. Accordingly, one would deny RELIABLE only if one already thought that Reliabilism were false. That is, objecting to Reliabilism by appealing to RELIABLE begs the question.

But, objecting to Pragmatic Encroachment by appealing to MODAL or TEMPORAL is not substantially different from objecting to Reliabilism by appealing to RELIABLE. So, objecting to Pragmatic Encroachment in this way also begs the question.

Lastly, projectivist error theory can help here too. Particularly, one might be misled into thinking that MODAL and TEMPORAL sound false because one projects Kiarra's current context of evaluation, the world and time of her context of utterance, onto the actual context of evaluation.

## Chapter 2: Fixing Practical Adequacy

Jeremy Fantl and Matt McGrath (2002) use decision theory to state a practical condition on knowledge. Recently, Daniel Eaton and Tim Pickavance (2015) have objected to this view by arguing it entails that a plausible proposition, that one cannot gain knowledge that  $p$  by getting evidence against  $p$ , is false. Adam Zweber (2016) has also objected to this view by arguing it entails that a very plausible version of single premise closure is false. Brian Weatherson (2016) has published a response to Eaton and Pickavance aimed at showing that their implausible entailment is in fact true for independent reasons, and as such poses no cost for pragmatic encroachers that hold Fantl and McGrath's 2002 view. No one has yet responded to Zweber's objection.

In this paper I summarize Fantl and McGrath's 2002 view and the objections to it. I then argue that Eaton and Pickavance's objection to this view can be modified to dodge Weatherson's response. As such, things look grim for Fantl and McGrath's 2002 view. I then propose a modification of their view, a logically weaker version, that avoids all of these objections without losing its benefits. I conclude by raising a new objection to this logically weaker view, that is of course, a problem for the 2002 view as well.

### 1 A PRACTICAL CONDITION ON KNOWLEDGE: PC1

Fantl & McGrath make use of decision theory to express the practical condition on knowledge. Here an expression of their practical condition:<sup>56</sup>

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<sup>56</sup> The actual version of this practical condition as stated in Fantl and McGrath 2002 is: S is justified in believing that  $p$  only if, for any states of affairs A and B, if S is rational to prefer A to B, given  $p$ , then S is rational to prefer A to B in fact. This along with the near platitude that S knows  $p$  only if S is justified in believing  $p$  entails PC1. I've chosen to express PC1 in terms of knowledge, not justified belief, because all the objections to the view are expressed in terms of knowledge rather than justified belief.

PC1: If one knows  $p$ , then the action that one is rational to do in fact is the action that one is rational to do conditional on  $p$ .

The following method can be used to determine whether the consequent of PC1 is satisfied:

1. Determine the action that maximizes expected utility on one's actual evidence.
2. Determine the action that maximizes expected utility conditional on  $p$ .
3. Check to see if the actions generated by these two steps match.

Decision theory is used to evaluate the first two steps of this method. Importantly, this view assumes that one's actual evidence can be expressed as rational credences that range between 0 and 1. If the actions in question match, then the consequent of PC1 is satisfied. Also, to introduce a helpful technical term, if the consequent of PC1 is satisfied, then one's actual evidence is *practically adequate*.

To understand and motivate this principle, let's consider how PC1 can be used to assess the classic bank cases.<sup>57</sup>

*LowBank*: Hannah is driving home on a Friday afternoon. She plans to stop at the bank on the way home to deposit her paycheck. It is not important to do so, as she has no impending bills. But as she drives past the bank, she notices that the lines inside are very long, as they often are on Friday afternoons. Hannah knows that she was at the bank two weeks prior on a Saturday morning and it was open. Furthermore, she believes on this basis that the bank will be open, and it's true that the bank is open on Saturday.

*HighBank*: Hannah is driving home on a Friday afternoon. She plans to stop at the bank on the way home to deposit her paycheck. Since she has an impending bill coming due, and very little in her account, it is very important that she deposit her paycheck by Saturday. Hannah knows that she was at the bank two weeks prior

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<sup>57</sup> See DeRose (1992: 913) or Stanley (2005).

on a Saturday morning and it was open. Furthermore, she believes on this basis that the bank will be open, and it's true that the bank is open on Saturday.<sup>58</sup>

To ease the assessment of these case in terms of PC1, let's stipulate a decision matrix for each case, and grant that the above versions are just an expressions of these matrices.

*LowBank*

	Bank is open Saturday	Bank is closed Saturday
Go Friday	-5	-5
Go Saturday	0	-5
(Rational Credences)	.8	.2

Let check to see if Hannah's actual evidence in *LowBank* is practically adequate. Step one: determine the action that maximizes expected utility on Hannah's actual evidence.

$$EU(\text{Go Friday}) = (-5)(.8) + (-5)(.2) = -5$$

$$EU(\text{Go Saturday}) = (0)(.8) + (-5)(.2) = -1$$

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<sup>58</sup> These cases are largely taken from Stanley (2005), however, I've augmented them slightly. The original cases were meant to be neutral between pragmatic encroachment and epistemic contextualism. This neutrality requires that the cases include an uttered knowledge attribution. Since I'm only interested in pragmatic encroachment here, I've dropped the uttered knowledge attribution from the original cases.

So, the action (Go Saturday) maximizes expected utility given Hannah's actual evidence. Step two: determine the action that maximizes expected utility conditional on the proposition in question, namely, that the bank is open on Saturday.

$$\begin{aligned} \text{EU}(\text{Go Friday}) &= (-5)(1) + (-5)(0) = -5 \\ \text{EU}(\text{Go Saturday}) &= (0)(1) + (-5)(0) = 0 \end{aligned}$$

Thus, the action (Go Saturday) maximizes expected utility conditional on the proposition in question. Now for the easy part. Step three: check whether the actions generated by the first two steps match. In *LowBank* the actions match, and as such Hannah's actual evidence is practically adequate, and therefore, so long as she meets the other requirements for knowledge, she knows that the bank is open on Saturday.

*HighBank*

	Bank is open Saturday	Bank is closed Saturday
Go Friday	-5	-5
Go Saturday	0	-1,000
(Rational Credences)	.8	.2

Let check to see if Hannah's actual evidence in *HighBank* is practically adequate. Step one: determine the action that maximizes expected utility on Hannah's actual evidence.

$$\begin{aligned} \text{EU}(\text{Go Friday}) &= (-5)(.8) + (-5)(.2) = -5 \\ \text{EU}(\text{Go Saturday}) &= (0)(.8) + (-1,000)(.2) = -200 \end{aligned}$$

So, the action (Go Friday) maximizes expected utility given Hannah's actual evidence. Step two: determine the action that maximizes expected utility conditional on the proposition in question, namely, that the bank is open on Saturday.

$$\begin{aligned} \text{EU}(\text{Go Friday}) &= (-5)(1) + (-5)(0) = -5 \\ \text{EU}(\text{Go Saturday}) &= (0)(1) + (-1,000)(0) = 0 \end{aligned}$$

Thus, the action (Go Saturday) maximizes expected utility conditional on the proposition in question. Now for the easy part. Step three: check whether the actions generated by the first two steps match. Notice that in *HighBank* the actions don't match, and as such Hannah's actual evidence is not practically adequate, and therefore, whether or not she meets the other requirements for knowledge, she doesn't know that the bank is open on Saturday.

This is the desired result. PC1 explains the pragmatic encroacher's intuition that there's a knowledge difference between the Hannah in *LowBank* and the Hannah in *HighBank*, even though they are just alike with respect to all the traditional alethic, doxastic, and justificatory requirements on knowledge.

But PC1 does far more than explain the pragmatic encroacher's intuition concerning the bank cases. PC1, if true, is an expression of a practical condition on knowledge that is mathematically precise. It can yield clear results in cases where our intuitions fall short, and as a result, PC1 has the promise of clarifying and extending our

understanding of the level of evidence required to know certain propositions,<sup>59</sup> and the truth value of other important epistemic principles.<sup>60</sup>

PC1's power opens it up to new criticisms, since it may entail a deeply implausible proposition, or it might entail the falsity of a view that motivated Pragmatic Encroachment in the first place.

## **2 PROBLEMS FOR PC1**

It turns out that PC1 has several counterintuitive entailments. In this section we'll consider three problems: the problem from weak dominance cases, the problem from the knowledge principle, and the problem from single premise closure.

### **2.1 Weak Dominance Cases**

The first problem for PC1 is that it cannot, as stated, be applied to some cases of weak dominance. Consider the following case:

*TracingGame:* We're at my house. I propose the following game to you. You draw whatever you want on a blank piece of paper. I'll draw whatever I want on a piece of onion skin tracing paper. After we're finished with our drawings, I'll place my drawing over yours and see if our drawings match. There are two possible world states here: the drawings perfectly match or they don't. Before we draw, you bet on whether or not the drawings will perfectly match, and I tell you that if you bet that they match and you're right you win \$5, and if they don't match you win nothing. If you bet that they don't match and they match then you win nothing, and if they don't match you win nothing.

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<sup>59</sup> See Eaton Pickavance (forthcoming) for an argument that if PC1 is true, then the level of evidence required to know that atheism is true is much higher than the evidential requirement on Christian theism.

<sup>60</sup> For example, see below where it's argued that PC1 is inconsistent with the *Knowledge Principle*, and a plausible version of single premise closure.

A decision matrix helpfully illustrates this scenario:

*TracingGame*

	match	don't match
bet match	\$5	0
bet don't match	0	0
(rational credences)	.001	.999

This seems like an easy case of knowledge. Surely one knows that after the drawings are completed they will fail to match. Given this, it better turn out that your actual level of evidence in this case that the drawings don't match is practically adequate. Is it?

To answer this question, all we need to do is apply the method. Step one, determine the action that maximizes expected utility on one's actual evidence.

$$\begin{aligned}
 \text{EU}(\text{bet match}) &= (5)(.001) + (0)(.999) &= .005 \\
 \text{EU}(\text{bet don't match}) &= (0)(.1) + (0)(.999) &= 0
 \end{aligned}$$

So, (bet match) maximizes expected utility on one's actual evidence. Next, determine the action that maximizes expected utility conditional on the drawings failing to match.

$$\begin{aligned}
 \text{EU}(\text{bet match}) &= (5)(0) + (0)(1) = 0 \\
 \text{EU}(\text{bet don't match}) &= (0)(0) + (0)(1) = 0
 \end{aligned}$$

This is different. There isn't a single action that maximizes expected utility conditional on the drawings failing to match—there is a tie! How is one to proceed? Recall that the second step of the method says:

2. Determine the action that maximizes expected utility conditional on  $p$ .

This step, as written, is impossible to carry out for *TracingGame*. But, this is far from a deep problem. The second step of our method can be altered in the following way to get around it:

- 2\*. Determine the action, *or actions*, that maximize expected utility conditional on  $p$ .

So, (bet match) and (bet don't match) both maximize expected utility conditional on the drawings failing to match. Now for the final step. Check whether the actions generated by the first two steps are the same. Here again, we encounter some shallow trouble applying this step to *TracingGame*. The trouble, of course, is that the two steps generate different results. Step one of the method delivers (bet match) and the step two delivers (bet match) *and* (bet don't match). This difficulty can also be fixed by slightly altering the method. In particular we can change 3 to 3\* as follows:

3. Check to see if the actions generated by these two steps match.
- 3\*. Check to see if an action generated by the first step matches an action generated by the second step.

Once this change has been made, it follows that your .999 rational credence that the drawings fail to match in *TracingGame* satisfies practical adequacy, and as such PC1 doesn't implausibly entail that you fail to know that the drawing will fail to match in this case.

Well, this isn't quite right. PC1, as stated above, doesn't capture the changes made to steps two and three of our method. So, as stated above, PC1 *does* implausibly entail that you fail to know that the drawings don't match. This again is only a shallow problem; it can be fixed with a slight alteration. In particular we can change PC1 to PC1\* as follows:

PC1. If one knows  $p$ , then the action that one is rational to do in fact is the action that one is rational to do conditional on  $p$ .

PC1\*. If one knows  $p$ , then *an* action that one is rational to do in fact is *an* action that one is rational to do conditional on  $p$ .

Now's a good time to distinguish between two types of response to an objection. One can respond to an objection by *meeting* it or by *dodging* it. One meets an objection to a view by showing, in some way or another, that the objection fails. To take objections to PC1 from weak dominance cases as an example, one could meet such objections by arguing that cases of weak dominance, strictly speaking, are impossible. Alternatively, one might dodge an objection by first granting that the objection is a good one, and then endorsing, or at least pointing out that one might endorse, another view that does everything that you ever wanted the first view to do and is not affected by the objection.

Responding to the problem for PC1 from weak dominance cases by giving up on PC1 and endorsing PC1\* is a dodge. Unless there's also a way to meet this objection, then PC1 is false, but this is made much less interesting by the introduction of PC1\*. After all, pragmatic encroachers only ever cared about PC1 because they were looking for a mathematically precise practical condition on knowledge. PC1\* offers this same benefit as PC1 while lacking one of its costs. So it seems that there are two ways in which domination counts as a reason to prefer PC1\* over PC1.

## 2.2 Problems from the Knowledge Principle

Daniel Eaton and Tim Pickavance (2015) argue that PC1 entails that a plausible principle, the Knowledge Principle, that one cannot gain knowledge that  $p$  by getting evidence  $p$ , is false. This objection is valuable at this point in the dialectic of this paper because this objection doesn't rest on cases of weak dominance, and as such, this objection poses a problem for PC1\* as well. This noted, I will here present Eaton and Pickavance's argument as an argument against PC1\*, since it is (even though it probably wasn't intended to be) and doing so fits better with the dialectic of this paper.

This argument is built on a case, the Vaccine Case, and this case contains a pair of cases each of which is expressed with a decision table. According to both cases, "X is a vaccine that protects against disease D. To simplify things, suppose that exposure to D without having had X guarantees that one contracts D, and if one gets X, then one won't contract D even if one is exposed to it, and suppose that whether one is allergic to X is probabilistically independent of whether one will be exposed to D."<sup>61</sup>

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<sup>61</sup> Eaton and Pickavance (2015), p. 8.

Vaccine Case: State #1

	I'll be exposed to D and I'm allergic to X	I'll be exposed to D and I'm not allergic to X	I'll not be exposed to D and I'm allergic to X	I'll not be exposed to D and I'm not allergic to X
get X	-100	-5	-100	-5
don't get X	-100	-100	0	0
rational credences	.02	.18	.08	.72

A note about the distribution of credences here: since Eaton and Pickavance have stipulated that exposure to D and being allergic to X are probabilistically independent, we can reverse engineer out the rational credences for exposure to D and being allergic to X as follows:

- C(one is allergic to X) = .1
- C(one isn't allergic to X) = .9
- C(one will be exposed to D) = .2
- C(one won't be exposed to D) = .8

Now, let's check if one's .72 rational credence that one's not exposed and not allergic satisfies PC1\*. Step one, determine what action, or actions, maximize expected utility on one's actual evidence.

$$\text{EU}(\text{get X}) = (-100)(.02) + (-5)(.18) + (-100)(.08) + (-5)(.72) = -14.5$$

$$\text{EU}(\text{don't get X}) = (-100)(.02) + (-100)(.18) + (0)(.08) + (0)(.72) = -20$$

So, (get X) maximizes expected utility on one's actual evidence. Step two, determine what action, or actions, maximize expected utility conditional on the conjunction I'm not exposed to D and I'm not allergic to X.

$$\text{EU}(\text{get X}) = (-100)(0) + (-5)(0) + (-100)(0) + (-5)(1) = -5$$

$$\text{EU}(\text{don't get X}) = (-100)(0) + (-100)(0) + (0)(0) + (0)(1) = 0$$

So, (don't get X) maximizes expected utility on one's actual evidence. The final step, check whether an action generated by the first step is the same as an action generated by the second step. This check fails in State #1, and as such PC1\* entails that one doesn't know the conjunction in question.

Next Eaton and Pickavance use the following story to generate a subsequent state of this case:

Suppose that one's evidence that one is allergic to X is that 20% of the population has some genetic trait G, and that half of those that have G are allergic to X. Accordingly, one's credence that one has G is .2, that one is allergic conditional on one having trait G is .5, and thus one's credence that one is allergic is .1—just as it is above. Now suppose that one gets some new evidence that one is allergic to X, in particular, one gets screened for G, and this test comes back positive. However, this test gives lots of false positives, and thus testing positive only doubles the likelihood of having G. Accordingly, one's credence that one has G conditional on one's positive screening is .4, and thus one's updated credence that one is allergic to X is bumped up to .2 by this new evidence.<sup>62</sup>

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<sup>62</sup> Eaton and Pickavance (2015), p. 8-9.

The resulting change in rational credences are as follows:

$$\begin{aligned}
 C+(\text{one is allergic to X}) &= .2 \\
 C+(\text{one isn't allergic to X}) &= .8 \\
 C(\text{one will be exposed to D}) &= .2 \\
 C(\text{one won't be exposed to D}) &= .8
 \end{aligned}$$

This change results in the following matrix:

Vaccine Case: State #2

	I'll be exposed to D and I'm allergic to X	I'll be exposed to D and I'm not allergic to X	I'll not be exposed to D and I'm allergic to X	I'll not be exposed to D and I'm not allergic to X
get X	-100	-5	-100	-5
don't get X	-100	-100	0	0
rational credences	.04	.16	.16	.64

Now, let's check and see whether one's .64 rational credence in the conjunction I'll not be exposed and I'm not allergic satisfies practical adequacy. Step one, determine the action, or actions, that maximize expected utility on one's actual evidence.

$$\begin{aligned}
 EU(\text{get X}) &= (-100)(.04) + (-5)(.16) + (-100)(.16) + (-5)(.64) = -24 \\
 EU(\text{don't get X}) &= (-100)(.04) + (-100)(.16) + (0)(.16) + (0)(.64) = -20
 \end{aligned}$$

So, (don't get X) maximizes expected utility on one's actual evidence. Step two, determine what action, or actions, maximize expected utility conditional on the conjunction I'm not exposed to D and I'm not allergic to X.

$$\text{EU}(\text{get X}) = (-100)(0) + (-5)(0) + (-100)(0) + (-5)(1) = -5$$

$$\text{EU}(\text{don't get X}) = (-100)(0) + (-100)(0) + (0)(0) + (0)(1) = 0$$

So, (don't get X) maximizes expected utility on one's actual evidence. The final step, check whether an action generated by the first step is the same as an action generated by the second step. Interestingly, in State #2 this check succeeds, and as such one's rational credence of .64 in the conjunction in question is practically adequate.

Claim: if the only thing blocking one from knowing the conjunction in question in State #1 is that one's evidence fails to be practically adequate, then the move to State #2 is not only one in which one's evidence attains practical adequacy---it's one in which one also gains knowledge.

There is a sensible worry about this claim. In particular it's plausible that a .64 rational credence isn't enough to generate knowledge, even if it is practically adequate.

Eaton and Pickavance respond to this worry in the following way:

We grant this point. However, it doesn't really matter. We've chosen the numbers above to make the math come out in a fairly simple way. Once one sets a threshold for knowledge below 1, we can build a case with just the contours of the example above that illustrates the problem for pragmatic encroachment. Since there is no standard credence threshold for knowledge, we've chosen the path of easy math rather than demanding credence floors.<sup>63</sup>

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<sup>63</sup> Eaton and Pickavance (2015), p. 10.

Now we are in a position to state the objection to PC1\* from the Knowledge Principle.<sup>64</sup>

E&P's Argument:

1. If PC1\* is true, then, in the Vaccine Case, one gains knowledge that [one is not allergic to X and will not be exposed D] by getting evidence that one *is* allergic to X. (premise)
2. If one can't gain knowledge of a proposition *p* by getting evidence against *p*, then, in the Vaccine Case, one doesn't gain knowledge that [one is not allergic to X and will not be exposed to D] by getting evidence that one *is* allergic to X. (premise)
3. *Knowledge Principle*: One can't gain knowledge of a proposition *p* by getting evidence against *p*. (premise)
4. So, in the Vaccine Case, one doesn't gain knowledge that [one is not allergic to X and will not be exposed to D] by getting evidence that one is allergic to X. (from 2 and 3, MP)
5. So, PC1\* is false. (from 1 and 4, MT)

This argument is transparently valid, so it's sound if the premises are true. The target premise in this argument is clearly the first one, since the second premise is on the same level as, if something is not colored, then it's not red, and the knowledge principle looks pretty good too. So, if a defender of pragmatic encroachment is to *meet* this objection she must show what went wrong in defense of the first premise, or she must give up on the *Knowledge Principle*.

### ***Weatherson's Response: Give up the Knowledge Principle***

Brian Weatherson (forthcoming) agrees to the first premise and then persuasively

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<sup>64</sup> This is a reconstruction of Eaton and Pickavance's argument. I've reconstructed it in this way because it both captures the thought in their paper, and it facilitates understanding Brian Weatherson's response to it that follows in the next section.

argues that the above argument is unsound because the *Knowledge Principle* is false. He does this by using variations on common Gettier cases as counterexamples. The general features of his cases are all the same. Namely, one fails to know  $p$  solely because some present Gettier condition, and then an event occurs that both defeats the Gettier condition and slightly lowers one's rational credence in  $p$ . In such cases one comes to know  $p$  in virtue of an event that, after all the epistemological dust settles, leaves one's rational credence in  $p$  lower than before.

Let's look at a couple of his examples:

*Fake Barns*: Bob starts our story in Fake Barn Country (Goldman, 1976). At  $t_1$ , he starts looking straight at a genuine barn on a distant hill, and forms the belief that there is a barn on that hill. Since he's in fake barn country, he doesn't know there is a barn on the hill. At  $t_2$ , while Bob is still looking at the one genuine barn, all the fake barns are instantly destroyed by a visiting spaceship, from a race which doesn't put up with nonsense like fake barns. The mist from the vaporised barns slightly clouds Bob's vision, so he doesn't have quite as clear a view of the barn on the hill. But he still has an excellent view, so after the barns are destroyed, Bob's belief that there is a barn on that hill is knowledge. So at  $t_2$  he comes to know, for the first time, that there is a barn on that hill. But the vaporisation of the fake barns, which is what lets him come to know that there is a barn on that hill, doesn't raise the (evidential) probability that there is a barn there. Indeed, by making Bob's vision a little cloudier, it lowers that probability.<sup>65</sup>

So long as the reader has the intuition that one doesn't know that there is a barn in the traditional fake barn cases, then that reader should be convinced by this case that the *Knowledge Principle* is false. Since this intuition is not fully ubiquitous among philosophers, Weatherson also constructs a counterexample to the *Knowledge Principle* that is patterned after Gettier's original case.

*Ed's Prize*: Ted starts our story believing (truly, at least in the world of the story) that Bertrand Russell was the last analytic philosopher to win the Nobel Prize in literature. The next day, the 2011 Nobel Prize in literature is announced. At  $t_1$ , a trustworthy and very reliable friend of Ted's tells him that Fred has won the

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<sup>65</sup> See Weatherson (2014) p. 7-8.

Nobel Prize in literature. Ted believes this, and since Fred is an analytic philosopher, Ted reasonably infers that, as of 2011 at least, Bertrand Russell was not the last analytic philosopher to win the Nobel Prize in literature. This conclusion is true, but not because Fred won. In fact, Ed, who is also an analytic philosopher, won the 2011 Nobel Prize in literature. At  $t_2$ , Ted is told by a friend who is just slightly less reliable than the first friend that it is Ed, not Fred, who won the prize. Since Ted knows that Ed is also an analytic philosopher, this doesn't change his belief that Bertrand Russell was not the last analytic philosopher to win the Nobel Prize in literature. But it does change that belief from a mere justified true belief into knowledge.

At  $t_1$ , Ted didn't know that Bertrand Russell was not the last analytic philosopher to win the Nobel Prize in literature, since his true belief was based on a falsehood. At  $t_2$ , he did know this, on the basis of the second friend's testimony. But since the second friend was less reliable, and since the second piece of testimony raised doubts about the first in ways that render each of them suspect, the probability of Ted's conclusion was lower at  $t_2$  than  $t_1$ . So the second piece of testimony both lowered the probability of Ted's conclusion, and turned it into knowledge.

While this case can potentially persuade some philosophers that are not caught by *Fake Barns*, it shouldn't as it stands, since there's a problem with *Ed's Prize*. Namely, it looks like Ted is not responding properly to his evidence, since he receives contradictory reports concerning the Nobel Prize winner and he believes the less reliable report. Shouldn't he just stick with the more reliable testimony that he receives at  $t_1$ ? There's probably more than one way around this problem, but the following case has all the features that Weatherson needs without this corresponding difficulty.

*Water Bowl:* While Rey is visiting Fin's house she notices a large bowl of water in his kitchen. Later she wonders what the bowl is for. She asks her friend Poe, who is a good, but not great testifier, about it. Poe says that the bowl is for a dog. At  $t_1$ , Rey forms the belief that the bowl is for a pet on the basis of Poe's testimony. Because Poe is a good, but not great, testifier, Rey's rational credence that the bowl is for a pet is .95. The bowl is in fact for a fish, so Rey's belief, although justified and true, is not knowledge. Then the Oracle appears, who is a perfectly reliable testifier, and she tells Rey that the bowl is either used for a fish or is an emergency drinking reserve. The Oracle is specific: she says that there's a .94 chance that the bowl is use for a fish, and only a .06 chance the bowl is used as an emergency reserve. Rey believes the Oracle. At  $t_2$ , Rey forms the belief that the bowl is for a pet on the basis of the Oracle's testimony. Because the Oracle's

disjunctive testimony, Rey's rational credence that the bowl is for a pet is .94. Thus, at  $t_2$ , Rey comes to know that the bowl is for a pet on the basis of evidence that lowers her rational credence.<sup>66</sup>

Together, *Water Bowl* and *Fake Barns* constitute a compelling objection to the *Knowledge Principle* for anyone that thinks that gettier cases are good counterexamples to JTB. Shockingly, we've learned that this initially plausible principle is false.

Once this point is granted, are there any possible responses that salvage Eaton and Pickavance's argument? I can see two. The first line is to make an argument against PC1\* that relies entirely on an intuition about the Vaccine Case and not at all on the *Knowledge Principle*. The second line is to find a suitable principle to substitute for the *Knowledge Principle* that is not vulnerable to Weatherson-type counterexamples. Let's look at each in turn.

### ***The Intuition Line***

The Intuitive argument is expressed by the following:

*Intuitive Argument:*

1. If PC1\* is true, then, in the Vaccine Case, one gains knowledge that [one is not allergic to X and will not be exposed D] by getting evidence that one *is* allergic to X. (premise)
4. Vaccine Intuition: In the Vaccine Case, one doesn't gain knowledge that [one is not allergic to X and will not be exposed to D] by getting evidence that one is allergic to X. (premise)
5. So, PC1\* is false. (from 1 and 4, MT)

This argument doesn't rely on the *Knowledge Principle*, or any other principle for that matter. Instead it only relies on an intuition concerning the Vaccine case. The

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<sup>66</sup> Thanks to Josh Dever for discussion concerning this case.

thought here is that a philosopher might find herself, as I find myself, convinced by Weatherson-type counterexamples that the *Knowledge Principle* is false while still convinced that in the Vaccine Case doesn't gain knowledge that [one is not allergic to X and will not be exposed to D] by testing positive that one is allergic.

Admittedly, this *Intuitive Argument* will beg the question against anyone who rejects the Vaccine Intuition. How bad is this? Not that bad. After all, it's standard practice to appeal to intuitions about cases in epistemology.

Even still, it'd be nice to have an argument that explains the Vaccine Intuition, instead of simply relying on it. Such an argument would have two benefits. First, and more importantly, it would reveal a principled difference between the Vaccine Case and Weatherson-type cases. Second, it would avoid (immediately) begging the question against someone who rejects the Vaccine Intuition.

### ***The Alternative Principle Line***

The key to coming up with an argument that explains the Vaccine Intuition is to find a suitable epistemic principle. A suitable epistemic principle will entail the Vaccine Intuition, but it won't entail that the subjects in Weatherson-type cases fail to gain knowledge. Accordingly, Weatherson type cases won't be counterexamples to a suitable epistemic principle.

Does the subject in the Vaccine Case start with a justified belief that *p*? It depends on the way in which knowledge requires practical adequacy. Knowledge might require practical adequacy indirectly, because justification or belief require practical adequacy.<sup>67</sup> Knowledge might, alternatively, require practical adequacy directly—not by way of its justification or belief requirements.

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<sup>67</sup> See Fantl and McGrath (2002) for the view that practical adequacy is a necessary condition for justification and see Weatherson (2011) for the view that practical adequacy is a necessary condition for belief.

Eaton and Pickavance (2015) remain neutral between these different views on the relation between knowledge and practical adequacy. However, Weatherson's response calls for being more specific. In particular, Eaton and Pickavance's Vaccine Case can be used to object to any view according to which justified belief requires practical adequacy.

Notice that if justified belief requires practical adequacy then one doesn't start the Vaccine Case with a justified belief that  $p$  since one's evidence fails to be practically adequate. Then, once one gets some evidence against  $p$ , one's evidence satisfies practical adequacy and one comes to have a justified belief that  $p$ . Weatherson type cases, however, start with a subject that has a justified belief that  $p$ .

The following principle exploits this difference:

*Justification Principle:* One cannot gain a justified belief that  $p$  by getting evidence against  $p$ .

Does this principle entail that the subject of the Vaccine Case doesn't gain knowledge? Yes, so long as knowledge requires practical adequacy, because justification or belief require practical adequacy. The subject in the Vaccine Case starts out with an unjustified belief, and then subject gets some evidence against this unjustified belief. The *Justification Principle* entails that this subject's belief cannot become justified by this change in evidence. Accordingly, at the end of the Vaccine Case, the subject's belief is still unjustified, and thus the subject doesn't gain knowledge.

Importantly, if knowledge requires practical adequacy independently of justification or belief requiring practical adequacy, then this point doesn't go through, since the Vaccine Case underdetermines whether one starts without a justified belief on such a view. That is, it's coherent that on such a view that in the Vaccine Case one starts

out with a justified belief that  $p$ , but fails to know that  $p$  because one's evidence isn't practically adequate.

Are there Weatherson-type cases that are counterexamples to this principle? No, since Weatherson-type cases are variations on gettier cases, and gettier cases start with subjects that have a justified belief that  $p$ . Thus, the *Justification Principle* can be used to object to PC1\* in the following way:

1. If PC1\* is true, then, in the vaccine case, one gains knowledge that [one is not allergic to X and will not be exposed D] by getting evidence that one *is* allergic to X. (premise)
- 2.\* If one cannot gain a justified belief that  $p$  by getting evidence against  $p$ , then, in the Vaccine Case, one doesn't gain knowledge that [one is not allergic to X and will not be exposed to D] by getting evidence that one *is* allergic to X. (premise)
- 3.\* *Justification Principle*: One cannot gain a justified belief that  $p$  by getting evidence against  $p$ . (premise)
4. So, in the Vaccine Case, one doesn't gain knowledge that [one is not allergic to X and will not be exposed to D] by getting evidence that one is allergic to X. (from 2\* and 3\*, MP)
5. So, PC1\* is false. (from 1 and 4, MT)

This is an argument that does not immediately beg the question against philosophers who deny the Vaccine Intuition. Of course, an interlocutor could reply that there is a problem with the *Justification Principle* by saying that the Vaccine Case is a case where one gains a justified belief that  $p$  by getting evidence against it. That is a line, but without an independent argument to support it, it doesn't look very promising.

Thus there is a challenge for the defender of PC1\* that wants to meet this objection: Find an independent reason to deny the *Justification Principle*, or defend the view that knowledge requires practical adequacy independently of justification or belief requiring practical adequacy. Before beginning this project, however, there's another problem that the defender of PC1\* would be wise to consider.

### 3 THE PROBLEM FROM DISTRIBUTION

Adam Zweber (2016) gives an argument that shows that PC1\*, along with fallibilism, entail that a plausible epistemic closure principle is false. Here's the closure principle:

*Distribution*: if one knows the conjunction of  $p$  and  $q$ , and competently deduces  $q$  from it, thereby coming to believe  $q$ , then one comes to know  $q$ .<sup>68</sup>

How is it that PC1\* and fallibilism entail that *Distribution* is false? Here again it's required that we consider a particular case.

#### *Zweber's Case*

	p and q	p and -q	-p and q	-p and -q
Do A	100	100	-10,000	500
Do B	0	0	0	0
Rational Credences	.97	.01	.01	.01

<sup>68</sup> Zweber bounces back and forth between two formulations of this closure principle, this one and one that utilizes the locution 'being in a position to know'. Since 'being in a position to know' potentially raises some hairy questions, I've chosen to stick with this formulation in my summary of Zweber's argument.

Does one know (p and q) in this case? If one does, then fallibilism must be true, since one's rational credence in (p and q) is less than 1. Does PC1\* present any block to knowing (p and q) in this case? Let's check:

Step one, determine the action (or actions) that maximize expected utility on one's actual evidence.

$$\begin{aligned} EU(A) &= (100)(.97) + (100)(.01) + (-10,000)(.01) + (500)(.01) &= & 3 \\ EU(B) &= (0)(.97) + (0)(.01) + (0)(.01) + (0)(.01) &= & 0 \end{aligned}$$

So, (Do A) maximizes expected utility on one's actual evidence. Step two, determine what action (or actions) maximize expected utility conditional on (p and q).

$$\begin{aligned} EU(A) &= (100)(1) + (100)(0) + (-10,000)(0) + (500)(0) &= & 100 \\ EU(B) &= (0)(1) + (0)(0) + (0)(0) + (0)(0) &= & 0 \end{aligned}$$

So, (Do A) maximizes expected utility on one's actual evidence. The final step, check whether an action generated by the first step is the same as an action generated by the second step, comes back positive, so it follows that one's evidence that (p and q) in this case is practically adequate. As such, PC1\* poses no block to knowing (p and q) in this case. Zweber stipulates, as is standard, that in this case nothing else blocks one from knowing (p and q), and as such, one knows (p and q).

The next step of the Zweber line is to stipulate that one competently deduces *q* from (*p* and *q*), and thereby comes to believe *q*.<sup>69</sup> If *Distribution* is true, this, along with

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<sup>69</sup> Zweber doesn't actually stipulate all of this, but he needs to for this point to go through cleanly, and there's no trouble with this stipulation, so I've done it for him here.

the fact that one knows ( $p$  and  $q$ ) in this case, guarantees that one knows  $q$ . Does one know  $q$ ? One does only if one's evidence that  $q$  is practically adequate. So, is one's evidence that  $q$  practically adequate? Let's check:

Recall that (Do A) is the action that maximizes expected utility on one's actual evidence, so the first step of the check is already done. Step two, determine what action (or actions) maximize expected utility conditional on  $q$ .

This is slightly different than previous examples, since there isn't a single column for  $q$  that one can look at while zeroing out all the others to determine what action maximizes expected utility. However, the thought is still the same and is expressed by the following equation:

$$EU(A|q) = [(.97)(100) + (.1)(-10,000)] / .98 \approx -3$$

Of course, the expected utility of (Do B) conditional on  $q$  is 0, and  $0 > -3$ , so conditional on  $q$ , (Do B) maximizes expected utility. Thus there isn't a match between the action that maximizes expected utility on one's actual evidence and the action that maximizes expected utility conditional on  $q$ , and as such, one's evidence for  $q$  isn't practically adequate and one doesn't know  $q$ .

So, in this case, PC1\*, along with fallibilism, entails that one doesn't know  $q$ , and if one doesn't know  $q$ , then *Distribution* is false. Thus this case shows that, PC1\*, along with fallibilism, entails the falsity of *Distribution*.

This looks like a significant cost for anyone that holds PC1\*, since *Distribution* is very plausible. This poses an additional challenge for the defender of PC1\* that wants to meet this objection: to show where Zweber's argument goes wrong, or to give an independent reason to think that *Distribution* is false.

Unlike Eaton and Pickavance's argument, no one has yet responded to this challenge from Zweber, and I don't see a good way to meet this objection. Furthermore, it seems that Weatherson's response to Eaton and Pickavance is at best limited in its success. So it seems that PC1\* faces some significant challenges. Perhaps it's time to consider dodging, rather than meeting, these challenges.

### **3 THE SOURCE: THREE PLUS COLUMN CASES**

Eaton and Pickavance's objection is constructed using decision matrices that have three or more columns. Furthermore, constructing any Eaton/Pickavance-style case *requires* using a decision matrix that has at least three columns. This may not be immediately obvious. Understanding, not just that these cases work, but why they work will demonstrate this point.

Eaton/Pickavance-style cases are cases where in State #1 one's evidence for  $p$  doesn't satisfy practical adequacy, and then one moves to State #2 by getting some evidence against  $p$ , and State #2 is such that one's evidence for  $p$  does satisfy practical adequacy. So, after making the right stipulations, one gains knowledge that  $p$  by getting evidence against  $p$ . What's generally happening in such cases is that there's a practical adequacy threshold for knowing  $p$ , and there's one's level of evidence for  $p$ . In State #1, one's level of evidence for  $p$  is below the practical adequacy threshold, so one doesn't know  $p$ . Then, one merely gets some evidence against  $p$ , and this has two effects---it lowers one's level of evidence for  $p$ , and it diminishes *to a greater degree* the practical adequacy threshold. This is the trick to Eaton/Pickavance style cases. And this trick cannot be done in a case with only two columns that are probabilistically independent.<sup>70</sup>

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<sup>70</sup> Unless otherwise noted, from here on I leave the 'that are probabilistically independent' clause implicit whenever I'm discussing a two column case.

To see this consider the following fully general two column decision matrix:

	<i>p</i>	<i>q</i>
Do A	<i>A<sub>p</sub></i>	<i>A<sub>q</sub></i>
Do B	<i>B<sub>p</sub></i>	<i>B<sub>q</sub></i>
Rational Credences	<i>x</i>	1- <i>x</i>

Now assume that (Do A) maximizes expected utility conditional on *p*. It follows that one's level of evidence for *p* is practically adequate whenever  $EU(\text{Do A}) > EU(\text{Do B})$ . Thus, the following inequality identifies the practical adequacy threshold for two column cases:

$$(x)(A_p) + (1-x)(A_q) > (x)(B_p) + (1-x)(B_q)$$

Notice that once we have the values for (*A<sub>p</sub>*), (*A<sub>q</sub>*), (*B<sub>p</sub>*), and (*B<sub>q</sub>*) we can solve this equation and determine the practical adequacy threshold. Importantly, this threshold stays the same, no matter what happens to one's rational credence in *p*. So, if you get some evidence against *p*, and your rational credence in *p* drops somewhat, this has no effect whatsoever on the practical adequacy threshold in a two column case. Of course, the value of the practical adequacy threshold will sometimes shift when the values of (*A<sub>p</sub>*), (*A<sub>q</sub>*), (*B<sub>p</sub>*), and (*B<sub>q</sub>*) change, and this seems right.<sup>71</sup> Practical adequacy is supposed to be the practical requirement on knowledge after all.

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<sup>71</sup> The shift from LowBank to HighBank at the beginning of this chapter, for example, only involves a change in the value of (*B<sub>q</sub>*).

Now we're positioned to see why Eaton/Pickavance-style cases must have at least three columns. Namely, Eaton/Pickavance-style cases are cases where merely getting evidence changes the practical adequacy threshold, and getting evidence has no effect on the practical adequacy threshold in two column cases.

This doesn't hold for cases with three or more columns. That is, in a three or more column case, a mere change in one's evidence can change the practical adequacy threshold. Here again it is helpful to look at a fully general decision matrix to see this point.

	$p$	$q$	$r$
Do A	$Ap$	$Aq$	$Ar$
Do B	$Bp$	$Bq$	$Br$
Rational Credences	$x$	?	?

Assuming probabilistic independence between  $p$ ,  $q$ , and  $r$ , and that one's rational credence in  $p$  is  $x$ , there's no way to express one's rational credence in  $q$ , and one's rational credence in  $r$ , in terms of  $x$  alone. Of course, if one's rational credence in  $p$  is  $x$ , then one's rational credence in the conjunction of  $q$  and  $r$  is  $(1-x)$ , but that leaves open what one's rational credence in  $q$  is in terms of  $x$ .

Why is this? As one's rational credence in  $p$  goes down, one's rational credence in the conjunction of  $q$  and  $r$  must go up, and there's three ways that one's rational credence in the conjunction of  $q$  and  $r$  can go up. Namely, because one's credences in

both  $q$  and  $r$  go up, because one's credence in  $q$  goes up more than one's credence in  $r$ , or because one's credence in  $r$  goes up more than one's credence in  $q$ .

If an additional piece of information is added in, then the value of each of  $q$  and  $r$  can be expressed in terms of  $x$ . In particular, if we add in the relative sizes of  $q$  and  $r$ . So, let's suppose that  $q$  takes up .75 of  $(1-x)$  and  $r$  takes up the remaining .25 of  $(1-x)$ .

Accordingly:

	$p$	$q$	$r$
Do A	$Ap$	$Aq$	$Ar$
Do B	$Bp$	$Bq$	$Br$
Rational Credences	$x$	$(.75)(1-x)$	$(.25)(1-x)$

Now if we suppose that (Do A) maximizes expected utility conditional on  $p$ , then the following inequality determines the practical adequacy threshold for one's evidence for  $p$ :

$$(x)(Ap) + (.75)(1-x)(Aq) + (.25)(1-x)(Ar) > (x)(Bp) + (.75)(1-x)(Bq) + (.25)(1-x)(Br)$$

If the values of  $(Ap)$ ,  $(Aq)$ ,  $(Ar)$ ,  $(Bp)$ ,  $(Bq)$ , and  $(Br)$  are supplied, then we can determine the practical adequacy threshold. And, so long as none of these values change, the practical adequacy threshold will remain the same. However, this inequality is importantly different from the inequality that determines the practical adequacy threshold in two column cases in that the value of  $x$  is not only sensitive to  $(Ap)$ ,  $(Aq)$ ,  $(Ar)$ ,  $(Bp)$ ,  $(Bq)$ , and  $(Br)$ , it's also sensitive to the relative sizes of  $q$  and  $r$ .

This sensitivity may not seem like that big of a deal, but with the right case, things can get out of hand. Consider for example the following matrix:

	$p$	$q$	$r$
Do A	2	100,000	-100,000
Do B	1	-100,000	100,000
Rational Credences	$x$	$(.49)(1-x)$	$(.51)(1-x)$

Assume that  $p$ ,  $q$ , and  $r$  are probabilistically independent. Notice that conditional on  $p$ , (Do A) maximizes expected utility. So, the following inequality determines the practical adequacy threshold for this case.

$$(x)(2) + (.49)(1-x)(100,000) + (.51)(1-x)(-100,000) > (x)(1) + (.49)(1-x)(-100,000) + (.51)(1-x)(100,000)$$

$$x > .9997 \text{ (and some change)}$$

Accordingly, one's evidence for  $p$  is practically adequate only if one's rational credence in  $p$  is basically 1. This seems about right, since after all the possible outcomes of one's actions go all the way up to +100,000 and down to -100,000, so this should be a case in which the practical constraint on knowledge is quite strong.

Now, suppose that one gets some very slight evidence against  $p$ , and that this evidence makes  $q$  more likely while leaving  $r$  unaffected. Let's say that this changes the

relative sizes of  $q$  and  $r$  such that they are equal in size. To see how this change affects the practical adequacy threshold, we just need to change the above inequality as follows:

$$(x)(2) + (.5)(1-x)(100,000) + (.5)(1-x)(-100,000) >$$

$$(x)(1) + (.5)(1-x)(-100,000) + (.5)(1-x)(100,000)$$

$$x > 0$$

That's a dramatic shift! Because of this, if one started with a rational credence of .999 in  $p$ , .00049 in  $q$ , and .00051 in  $r$ , then one fails to know  $p$ , since one's evidence isn't practically adequate. And then, if one gets some evidence against  $p$  that bumps one's rational credence in  $p$  down to .9,  $q$  up to .05, and  $r$  up to .05, and the right stipulations are made, then one would gain knowledge that  $p$  by getting evidence against  $p$ . This, of course, is just a simplified abstract version of Eaton and Pickavance's Vaccine Case.

This is the feature that Eaton/Pickavance-style cases are taking advantage of. That is, Eaton/Pickavance-style cases are just set up to make the practical adequacy threshold extremely sensitive to the relative sizes of  $q$  and  $r$ . Then one can get some evidence against  $p$  that lowers one's rational credence in  $p$  and drops the practical adequacy threshold to the floor, thus leaving one with a lower credence in  $p$  that's practically adequate.

#### **4 AVOIDING THREE COLUMN CASES**

Now that the source of the problem has been identified, a path for dodging Eaton and Pickavance type objections becomes clear. In particular, the dodger of Eaton and Pickavance type objections needs a new practical condition on knowledge that's sensitive

to changes in one's practical situation and not sensitive to changes in the relative sizes of the columns. Here's such a condition:

PC2: If one knows  $p$ , then an action that one is rational to do in fact is an action that one is rational to do when one's credence in any of the not- $p$  possibilities is set to zero.<sup>72</sup>

There's a way of rewriting PC1\* so that it's more easily compared with PC2. In particular:

PC1\*: If one knows  $p$ , then an action that one is rational to do in fact is an action that one is rational to do when one's credence in *all* of the not- $p$  possibilities is set to zero.

This restatement of PC1\* is logically equivalent to the statement that I've been making use of since setting all not- $p$  possibilities to zero is equivalent to conditionalizing on  $p$ . This restatement makes clear the fact that PC1\* and PC2 are equivalent when it comes to two column cases, since in two column cases there is only one not- $p$  possibility, and when there's only one option, 'any' and 'all' are equivalent.

Probably the best way to understand PC2 is to use it to assess a case with three or more columns. Let's revisit the post update state of the simplified abstract version of Eaton and Pickavance's Vaccine Case from above.

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<sup>72</sup> Thanks to Matt McGrath for sharing a similar version of this condition in private correspondence.

	$p$	$q$	$r$
Do A	2	100,000	-100,000
Do B	1	-100,000	100,000
Rational Credences	.9	.05	.05

To satisfy the consequent of PC2, we first have to determine what action maximizes expected utility on one's actual evidence. In this case, (Do A) maximizes expected utility on one's actual evidence. Next we need to determine three more things: what actions respectively maximize expected utility when  $q$  is set to zero, when  $r$  is set to zero, and when both  $q$  and  $r$  are set to zero. When  $q$  and  $r$  are both set to zero, (Do A) maximizes expected utility. When  $r$  is set to zero, (Do A) also maximizes expected utility. But, when  $q$  is set to zero, (Do B) maximizes expected utility. This makes the consequent of PC2 false, since (Do A) is the only action that maximizes expected utility on one's actual evidence and (Do A) isn't an action that maximizes expected utility when one's rational credence in  $q$  is set to zero. Accordingly, one's actual evidence for  $p$  isn't practically adequate and one doesn't know  $p$ . This is a good result, since it blocks the counterintuitive entailment that one came to know  $p$  by getting evidence against  $p$ .

#### 4.1 An Internal Wrinkle

PC2 looks promising, but there's a wrinkle. The trouble is that for some cases, there is no fact of the matter concerning which actions maximize expected utility when one of the columns is set to zero. Here's a case that demonstrates this issue:

	$p$	$q$	$r$
Do A	-1	-1.1	+1.1
Do B	+1	+1.1	-1.1
Rational Credences	.5	.25	.25

Let's check to see if one's .5 credence in  $p$  is practically adequate according to PC2. On one's actual evidence, (Do B) maximizes expected utility. So, if respectively setting  $q$  and  $r$ ,  $q$ , and  $r$ , to zero makes (Do B) maximize expected utility, then one's .5 rational credence in  $p$  is practically adequate. If  $q$  and  $r$  are both set to zero, then (Do B) maximizes expected utility.

When  $q$  is set to zero, the values of  $p$  and  $r$  are not yet determined. That .25 needs to be distributed into  $p$  or  $r$ , or both. If it's distributed into  $p$ , then we get  $p = .75$ ,  $r = .25$ , and (Do B) maximizes expected utility. If it's distributed into  $r$ , then we get  $p = .5$  and  $r = .5$ , and (Do A) maximizes expected utility. So, there's no fact of the matter concerning which action maximizes expected utility when  $q$  is set to zero.

### 5 A FIX: PC(NOINCREASE)

This wrinkle is easily ironed. All that needs to be done is to alter PC2 to tell us what to do with the leftover probability when a column or set of columns is set to zero. The following will work:

PC2\*: If one knows  $p$ , then an action that one is rational to do in fact is an action that one is rational to do when one's credence in any of the not- $p$  possibilities is set to zero *by increasing  $p$* .

Fortunately, PC2\* can be restated as a natural and intuitive practical condition on knowledge:

PC(NoIncrease): If one knows  $p$ , then no increase in one's level of evidence for  $p$  can change what one is rational to do.

Sometimes in philosophy, as a conditional faces more and more sophisticated counterexamples it becomes Chisholmed to a point where it loses the intuitive punch that made it appealing in the first place. As PC1 was replaced by PC1\*, and PC1\* was replaced by PC2, decision theoretic principles attempting to state the practical condition on knowledge looked doomed to such a fate as well. But, then PC(NoIncrease) emerges and reminds one of what was appealing about practical adequacy accounts of pragmatic encroachment in the first place: that there's something epistemically good about being in an evidential state that, practically speaking, is as good as certainty.

### **5.1 Testing PC(NoIncrease): The Vaccine Case and Zweber's Case**

Eaton and Pickavance's Vaccine Case generates no trouble for PC(NoIncrease). In the Vaccine Case, one ends up in State #2, a state where one has a .64 rational credence that [one is not allergic to X and that one won't be exposed to D], and on one's actual evidence in State #2 the action (don't get X) maximizes expected utility. Before this, one was in State #1, a state where one's rational credence in the proposition in question was .72, and on one's actual evidence in State #1 the action (get X) maximizes expected utility. So, State #1 is an example of an increase in one's level of evidence for the proposition in question that changes what one is rational to do. As such, one's .64 rational credence in State #2 of the Vaccine Case isn't practically adequate according to

PC(NoIncrease), and thus there's no gaining of knowledge by switching from State #1 to State #2.

Here's a more general way of making the same point. Eaton/Pickavance-style cases are cases where a decrease in one's level of evidence for  $p$  changes the action that maximizes expected utility to match the action that maximizes expected utility conditional on  $p$ . As such, it must be true that there is an increase in one's level of evidence for  $p$  that changes the action that one is rational to do. It's right there in front of us, it's the state one started in!

So, PC(NoIncrease) cannot generate violations of the *Knowledge Principle* or, if practical adequacy is a requirement for justified belief, the *Justification Principle*.

Zweber's objection to PC1\* also misses PC(NoIncrease). That is, PC(NoIncrease) doesn't entail that *Distribution* is false in Zweber's case. Remember Zweber's objection to PC1\* requires that in the following case one's evidence for ( $p$  and  $q$ ) is practically adequate, while one's evidence for  $q$  is not:

*Zweber's Case*

	p and q	p and -q	-p and q	-p and -q
A	100	100	-10,000	500
B	0	0	0	0
Rational Credences	.97	.01	.01	.01

This point follows from PC1\*, but it doesn't follow from PC(NoIncrease), since on PC(NoIncrease) a .97 credence in ( $p$  and  $q$ ) isn't practically adequate. To see this, consider the following state where ( $p$  and  $q$ ) is increased to .98 decreasing ( $-p$  and  $-q$ ) to 0.

*Updated Zweber's Case*

	p and q	p and -q	-p and q	-p and -q
A	100	100	-10,000	500
B	0	0	0	0
Rational Credences	.98	.01	.01	0

Before this increase in the level of one's evidence for ( $p$  and  $q$ ) the  $EU(A) > EU(B)$ . But, after this increase, the  $EU(B) = 0$ , while the  $EU(A) = -1$ , so, the  $EU(B) > EU(A)$ . This of course shows that in Zweber's Case an increase in one's level of evidence for the proposition in question changes what one is rational to do, and as such, at least according to PC(NoIncrease), one's .97 rational credence in ( $p$  and  $q$ ) is not practically adequate.

This is enough to block Zweber's particular case from generating a violation of *Distribution*, since according to PC(NoIncrease) the antecedent of *Distribution* is false in this case.

So, dropping PC1\* and adopting PC(NoIncrease) is a good way to avoid costs of the objections raised by Eaton and Pickavance's Vaccine Case, as well as Zweber's Case. While this clearly counts in favor of PC(NoIncrease), it is not without its difficulties.

## 5.2 The Generality of PC(NoIncrease)

PC(NoIncrease) avoids the problem that the Vaccine Case caused for PC1\*, but does it also avoid Eaton/Pickavance-style cases? Yes, since on PC(NoIncrease) the practical adequacy threshold can only be shifted by changing the values of the outcomes of one's actions. Here's a hand-wavy proof. In a two column case, for the reasons stated above, changes in one's rational credences cannot change the practical adequacy threshold. In a three or more column case, PC(NoIncrease) tells us to look at all the possible ways of increasing the evidence in  $p$ . Among these possible ways, there will always be some way, or ways if there's a tie, of increasing one's level of evidence in  $p$  that raises the practical adequacy threshold higher than any other way of increasing one's level of evidence in  $p$ . This highest threshold is the threshold that PC(NoIncrease) sets for each case. Accordingly, the only way to shift the practical adequacy threshold on PC(NoIncrease), in a case with any number of columns, is to change the values of the outcomes of one's actions.

This feature of PC(NoIncrease) also safeguards against Zweber-style cases. This is because Zweber-style cases also rely on shifting the practical adequacy threshold. The difference between Eaton/Pickavance style cases, and Zweber-style cases is that where Eaton/Pickavance-style cases shift the practical adequacy threshold, on PC1\*, by updating on new evidence, Zweber-style cases shift the practical adequacy threshold, on PC1\*, by conditionalizing on a different proposition. Accordingly, since on PC(NoIncrease) the practical adequacy threshold only shifts when the values of the outcomes of one's actions shifts, it can't be successfully targeted by a Zweber style case.

### 5.3 Challenges for PC(NoIncrease)

While PC(NoIncrease) is quite good at dodging some strong objections to PC1\*, it's not superior to it on all fronts. In particular, determining whether some level of evidence for  $p$  satisfies practical adequacy in a three or more column case is straightforward on PC1\*. All you have to do is check what actions one's rational to do in fact and what actions one's rational to do conditional on  $p$ . Determining whether some level of evidence satisfies practical adequacy in a three or more column case on PC(NoIncrease) requires checking that an action that one is rational to do in fact is an action that one is rational to do *on every possible increase* in one's evidence for  $p$ . And, it turns out that in a three column case, there are an infinite number of ways to increase the level of one's evidence for  $p$ .

As things stand currently, there's no general method for determining whether one's level of evidence for  $p$  in a three or more column case is practically adequate. This is not a deep problem so much as it is a call for someone to do some fancy math.

A more serious objection to PC(NoIncrease), one that may undermine one's motivation to do the aforementioned fancy math if it works, is the objection from tiny bets. The objection from tiny bets makes use of a case that only has two columns that are probabilistically independent, and as such it is an objection to PC1\* as well.

#### ***Objection from Tiny Bets***

1. If PC(NoIncrease) is true, then it's only the ratio between the values of the outcomes of one's actions, not the magnitudes, that affect practical adequacy.
2. If it's only the ratio between the values of the outcomes of one's actions, not the magnitudes, that affect practical adequacy, then being offered a tiny bet can place a very strong constraint on knowledge.
3. But, being offered a tiny bet can't place a very strong constraint on knowledge.

4. So, PC(NoIncrease) is false.

This argument is valid, thus, so long as the premises are true, PC(NoIncrease) is false. To see that the first premise is true, consider a fully general two column case:

	$p$	$q$
Do A	$Ap$	$Aq$
Do B	$Bp$	$Bq$
Rational Credences	$x$	$1-x$

Assuming that (Do A) maximizes expected utility conditional on  $p$ , the following inequality determines the practical adequacy threshold:

$$(x)(Ap) + (1-x)(Aq) > (x)(Bp) + (1-x)(Bq)$$

And, this inequality is sensitive only to the ratios between the outcomes, not the magnitudes. A pair of examples is helpful here:

	$p$	$-p$
Do A	10	-100
Do B	-10	100

Conditional on  $p$ , (Do A) maximizes expected utility. Thus, the practical adequacy threshold for one's level of evidence for  $p$  is:

$$(x)(10) + (1-x)(-100) > (x)(-10) + (1-x)(100)$$

$$x > 10/11$$

	$p$	$\neg p$
Do A	1	-10
Do B	-1	10

Conditional on  $p$ , (Do A) maximizes expected utility. Thus, the practical adequacy threshold for one's level of evidence for  $p$  is:

$$(x)(1) + (1-x)(-10) > (x)(-1) + (1-x)(10)$$

$$x > 10/11$$

On to the second premise. Because of this feature, if omniscient and omnipotent being were to appear to bank case Hannah and say, "You can bet that the bank is open on Saturday, or you can bet that it's not. You can bet that the bank is closed on Saturday by actively betting that the bank is closed, or by doing nothing. The various outcomes of your betting behavior are accurately expressed by the following chart where the value of 1 = the value of getting \$1." And then she shows Hannah the following:

*Tiny Bets*

	the bank is open Saturday	the bank is closed Saturday
bet bank is open Saturday	-.0001	1
bet bank is closed Saturday	.0001	-1

Conditional on the bank being open on Saturday, the action (bet bank is closed on Saturday) maximizes expected utility. So, the following inequality can be used to determine the threshold for my level of evidence that the bank is open on Saturday must reach in order to be practically adequate.

$$EU(\text{bet bank is closed Saturday}) > EU(\text{bet bank is open Saturday})$$

$$(x)(.0001) + (1-x)(-1) > (x)(-.0001) + (1-x)(1)$$

$$x > .9999$$

In the expressions of the classic bank cases at the beginning of this paper, Hannah's rational credence that the bank is open on Saturday is .8. This was enough for her to know in the low stakes bank case, but not enough to know in the high stakes bank case. In this same way, this situation where the omniscient and omnipotent being offers Hannah a tiny bet is one in which Hannah doesn't know that the bank is open on Saturday because her evidence isn't practically adequate. Indeed, the practical adequacy threshold for one's evidence that the bank is open on Saturday is higher in *Tiny Bets* than it was in the earlier expression of the classic high stakes bank case. For consider:

*HighBank*

	Bank is open Saturday	Bank is closed Saturday
Go Friday	-5	-5
Go Saturday	0	-1,000
(Rational Credences)	.8	.2

Conditional on the bank being open on Saturday, the action (Go Saturday) maximizes expected utility. So, the following inequality can be used to determine the threshold for my level of evidence that the bank is open on Saturday must reach in order to be practically adequate.

$$\begin{aligned} EU(\text{Go Saturday}) &> EU(\text{Go Friday}) \\ (x)(0) + (1-x)(-1000) &> (x)(-5) + (1-x)(-5) \\ x &> .995 \end{aligned}$$

So, according to PC(NoIncrease), tiny bets can place a constraint on knowledge that is stronger than the constraint present in *High Bank*.

The third premise: it's implausible that such tiny bets can place such a strong constraint on knowledge. Think about it. In the tiny bets case the best thing that can happen to Hannah is that she gets a reward that's as valuable as \$1, and the worst thing that can happen is that she can get a penalty that's as bad as losing a dollar. Thus, such a case is as intuitively low stakes as they come, and certainly not a case in which it is more

difficult to know the proposition in question than one in which something very bad might happen to you. Even those that have the bank case intuitions should agree with this.

## Chapter 3: Wagering on Pragmatic Encroachment<sup>73</sup>

### 1 INTRODUCTION

Lately, there has been an explosion of literature exploring the relationship between one's practical situation and one's knowledge.<sup>74</sup> Some involved in this discussion have suggested that facts about a person's practical situation might affect whether or not a person knows in that situation, holding fixed all the things standardly associated with knowledge (like evidence, the reliability of one's cognitive faculties, and so on).<sup>75</sup> According to these "pragmatic encroachment" views, then, one's practical situation encroaches on one's knowledge. Though we won't endorse pragmatic encroachment here, we find the view intriguing, and its popularity warrants carefully considering its implications. One potential avenue of exploration concerns religious epistemology, in particular, whether pragmatic encroachment has consequences concerning the epistemic requirements of atheism. We begin the journey down that avenue by connecting Pascal's Wager to pragmatic encroachment in order to defend this conditional: If there is pragmatic encroachment, then it is *ceteris paribus* more difficult to know that atheism is true (if it is) than it is to know that God exists (if God does exist).

Two comments. First, on the claim that God exists. For the earlier stages of the paper, we stipulate that 'God' refers to the Christian God, the Trinitarian God of

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<sup>73</sup> This chapter was equally co-authored with Tim Pickavance. We delivered an ancestor of this paper at the EPS Annual Meeting in November 2012 and defended an ancestor of this paper at the New Insights and Directions in Religious Epistemology Workshop on Religious Epistemology, Contextualism, and Pragmatic Encroachment, at Oxford University, in March 2013, funded by the John Templeton Foundation. Thanks to helpful audiences at those events, and especially Jeff Russell (who delivered exceedingly helpful comments on the paper at Oxford), Charity Anderson, Matthew Benton, Jeremy Fantl, Sandy Goldberg, John Hawthorne, Matt McGrath, and Michael Pace. Thanks as well to Josh Dever, Sinan Dogramaci, Miriam Schoenfield, and David Sosa.

<sup>74</sup> E.g., Anderson and Hawthorne (forthcoming); Fantl and McGrath (2002, 2009, ms.); Hawthorne (2004); Kvanvig (2011); Stanley (2005); Ross and Schroeder (forthcoming); Schroeder (2012); Weatherson (2005, 2011); Williamson (2005).

<sup>75</sup> Fantl and McGrath (2002, 2009, ms.) and Stanley (2005) are arguably the most committed of the lot.

Abraham, Isaac, and Jacob as revealed in the Incarnate Christ, if such a being exists. ‘God exists’ is, then, roughly and contingently equivalent to ‘Classical, Creedal Christianity is true’. Ordinarily, the English word ‘God’ is more flexible than this. It can refer to, e.g., the being worshipped by Muslims, or Brahman, if such beings exist, and need not be an empty name if some non-classical version of Christianity is true.<sup>76</sup> For sociological reasons to do with the religious affiliation of anglophone philosophers, we are initially concerned with Christianity. Further, because the names for the Supreme Being in Christianity overlap with those in Judaism and Islam, some sort of stipulation is necessary here. We’ve chosen this one to ease the prose, and do not mean to insinuate anything about the relationship between Christianity and Judaism, Islam, Hinduism, or any other religion. When it comes time to consider alternatives to Christianity below, we will alter the terminology. At any rate, denying that “God” exists, given our stipulation, is not equivalent to being an atheist, as ‘atheism’ is commonly understood. Second, on one proposition’s being “more difficult” to know than some other proposition. It is plausible that we can compare the strengths of two people’s epistemic positions, at least in some cases.<sup>77</sup> This is especially true when the propositions in question are related in important ways. For example, one person may have some evidence for believing that the earth is flat, another person may have some evidence for believing that the earth is spherical. Even if the evidential bases are disjoint, we might be able to judge that the evidence that one person has is better or stronger than the evidence that another person has, and thereby judge that the former is in a stronger epistemic position than the latter (supposing

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<sup>76</sup> Because ‘Allah’ is simply the Arabic word rightly translated into English as ‘God’, we do not deem it appropriate to use ‘Allah’ here. This is another part of the terminological problem we are up against.

<sup>77</sup> We use ‘strength of epistemic position’ as DeRose (2009) does (cf. pp. 7-9). One’s strength of epistemic position is determined by those factors traditionally associated with knowledge, factors like evidence or the reliability or proper functioning of one’s cognitive faculties. If one is an evidentialist, then the better one’s evidence with respect to *p*, the stronger one’s epistemic position with respect to *p*. If one is a reliabilist, then the more reliable was the faculty that gave rise to a belief that *p*, the stronger one’s epistemic position with respect to *p*. And so on.

evidentialism is true). When we say that one proposition is “more difficult” to know than another proposition, then, we mean to say that one must be in a stronger epistemic position to know the former proposition than one must be in to know the latter proposition.

The plan for the paper is straightforward. In section 2, we say more about what pragmatic encroachment is. We do this by introducing and unpacking the technical term ‘practical adequacy’ and then using this technical term to give a more precise definition of pragmatic encroachment. We then sketch some of the reasons pragmatic encroachers have offered in favor of their view. In section 3, we connect this form of pragmatic encroachment and Pascal’s Wager. The connection reveals that pragmatic encroachment entails that it’s more difficult to know that God does not exist than it is to know that God exists. There are some worries about our argument, so in section 4 we consider and reply to these worries.

## **2 PRAGMATIC ENCROACHMENT**

According to pragmatic encroachers, whether one knows  $p$  requires more than having a non-gettiered true belief that  $p$  that has the right truth-conducive features. Knowledge also depends on the practical features of one’s situation. This characterization of pragmatic encroachment is thin. All it says is that one’s knowledge depends on one’s practical situation *in some way or other*, and it makes no attempt to characterize the nature of this dependence. There is more than one such characterization, and each corresponds with a particular version of pragmatic encroachment. Some of these versions are expressed in the literature. We will focus on a particularly popular version of pragmatic encroachment, characterized in terms of practical adequacy. Before we articulate that version, we want to note two assumptions that will simplify the discussion. First, we’ll assume an evidentialist gloss on strength of epistemic position, such that the

strength of one's epistemic position with respect to any proposition  $p$  is a function of the strength of one's evidence that bears on  $p$ . Second, we'll model the strength of one's evidence in terms of a rational credence function. The overall idea, then, is that the higher one's rational credence in a proposition, the stronger one's evidence must be with respect to that proposition, and the stronger one's epistemic position is with respect to that proposition. We believe that nothing turns on these simplifications.

The practical adequacy version of pragmatic encroachment claims that a necessary condition for some subject  $s$  to know that  $p$  is that  $s$ 's epistemic position with respect to  $p$  is "practically adequate". Clearly, we need to unpack this term of art 'practical adequacy'. The basic idea is this: one's epistemic position with respect to  $p$  is practically adequate when no amount of improvement in one's evidence about  $p$  would make a difference as to what actions are rational for one. Anderson and Hawthorne (forthcoming) put it this way:

The gap between one's actual epistemic position and perfect epistemic position with regard to  $p$  makes a practical difference to a decision in a scenario just in case...one's actual ranking of actions differs from one's ranking of actions conditional on  $p$ . ... We will call a subject's strength of epistemic position 'practically inadequate' when the gap makes a practical difference and 'practically adequate' when the gap does not make a practical difference. (p. 4)

We should work a bit more slowly through this terrain. First, for some subject  $s$  and some proposition  $p$ , if the gap between  $s$ 's actual strength of epistemic position for  $p$  and the perfect strength of epistemic position for  $p$  makes no *practical difference*, then this strength of epistemic position is practically adequate. And the gap between one's actual strength of epistemic position and the perfect strength of epistemic position makes a practical difference if and only if the action that is actually rational for  $s$  differs from the rational action for  $s$  conditional on  $p$ . But how are actions ranked? Here's one way. Using standard decision theory, calculate the expected utilities of all the available actions

and list them from greatest to least. And what of actions conditional on  $p$ , how are they ranked? Again calculate the expected utilities of all the available actions, except this time, use the probabilities of each proposition conditional on  $p$ , and list these results from greatest to least. If the lists have different actions ranked first, then the gap made a practical difference, and  $s$ 's epistemic position with respect to  $p$  is practically inadequate; if the lists have the same action ranked first, then the gap made no practical difference, and  $s$ 's epistemic position with respect to  $p$  is practically adequate.

An example is helpful. A sea captain is just about to take a ship full of 200 passengers for a harbor tour. Now consider the following proposition: the sea captain's ship is seaworthy. Suppose that her rational credence that the ship is seaworthy is .9, and accordingly that her rational credence that the ship is not seaworthy is .1---fill in the details however you like to get these numbers. Here and throughout, we use ' $C$ ' represent an agent's rational credence function. In this case, then,  $C(\text{seaworthy}) = .9$  and  $C(\text{not seaworthy}) = .1$ . Furthermore, she has two available ways in which she could act: she could depart immediately or she could delay the harbor tour to do some further checking to raise her confidence that the ship is seaworthy.

This setup has two options for action and two world states, so there are four outcomes to consider. First suppose that the sea captain chooses to start the harbor tour on time. If the ship is not seaworthy, then everyone drowns. If the ship is seaworthy, then everyone has a pleasant harbor tour and none of the passengers get upset due to a delay. Now suppose that the sea captain delays the cruise to do some further checking. If the ship is not seaworthy, then the sea captain will discover this and cancel the harbor tour. This would make the passengers angry, and it would lose the captain the revenue that would have been generated by the trip. If the ship is seaworthy, then the captain's extra checking would delay the departure a half hour, and this would make some of the

passengers mildly upset.

We can represent the sea captain's practical situation with the following table:<sup>78</sup>

	ship is seaworthy	ship is not seaworthy
start the harbor tour on time	+10	-10,000
do some further checking	-10	-200

Here and throughout, we use 'EU' to represent an agent's expected utility function. In this case,  $EU(\text{start on time}) = .9(10) + .1(-10,000) = -991$ , whereas  $EU(\text{do further checking}) = .9(-10) + .1(-200) = -29$ . Thus the actual rankings of the sea captain's actions are as follows:

1. Do some further checking
2. Start the harbor tour on time

What about the rankings of the sea captain's actions conditional on the ship's being seaworthy? In that case,  $EU(\text{start on time}) = 10$ , while

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<sup>78</sup> We picked particular utilities for the outcomes in this case to make the math easy and vivid. Of course, there is a range of values for each outcome that will also make our point. So, if you find our particular utility assignments implausible—for example you might think that -10,000 isn't enough to account for the utility lost by everyone drowning—feel free to use utility assignments that seem more plausible to you. So long as the particular assignments you choose are constrained by the features of the case, then all of our subsequent points are unaffected. (Our thanks to an anonymous referee for bringing up this issue).

$EU(\text{do further checking}) = -10$ .<sup>79</sup> Thus the rankings of the sea captain's actions conditional on the ship's being seaworthy are as follows:

1. Start the harbor tour on time
2. Do some further checking

The order of the sea captain's actual rankings differs from her rankings conditional on the ship's being seaworthy. Thus, the gap for the sea captain makes a practical difference, and accordingly, the sea captain's strength of epistemic position with respect to the ship's being seaworthy is practically *inadequate*.

The sea captain's strength of epistemic position could become practically adequate if it were sufficiently improved. Obviously if she became certain that the ship is seaworthy, if  $C(\text{ship is seaworthy}) = 1$ , then her actual strength of epistemic position would be practically adequate. But, what is the minimally strong epistemic position for her that would be practically adequate? That is, what is the rational credence below which the sea captain is guaranteed to have practically inadequate belief? The value of the minimally strong epistemic position is given by the minimal value of  $C(p)$  such that an agent's rankings of actions given  $C(p)$  has the same top-ranking actions as the rankings of actions conditional on  $p$ . In the sea captain case, this value is given by solving for  $x$  in the following inequality:  $x(10) + (1-x)(-10000) > x(-10) + (1-x)(-200)$ . Thus the sea captain's belief that the ship is seaworthy is practically adequate when  $C(\text{seaworthy}) > 490/491$ , approximately .99796. Thus it turns out that the sea captain needs a rational credence tantamount to certainty in order to be in a position to know that the ship is

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<sup>79</sup>  $1(10) + 0(-10,000) = 10$ ;  $1(-10) + 0(-200) = -10$ . The second column of the decision table becomes irrelevant when conditional on the ship's being seaworthy, since (if one is rational),  $C(\text{not seaworthy}|\text{seaworthy}) = 0$ .

seaworthy, given the utilities we've assumed for the possible outcomes.

Let's now consider a subject whose strength of epistemic position, with respect to this same  $p$ , is *practically adequate*. Consider Kenji and his friend Smith who both happen to walk by the ship mentioned above right as it is scheduled to start its harbor tour. Kenji likes to bet on everything, so he proposes the following set of bets to Smith. If Smith bets that the ship will sink during its next harbor tour and he's right, then he wins \$5, and if he's wrong, then he loses \$5. Also, if Smith bets that the ship will *not* sink during its next harbor tour and he's right, then he wins \$5, and if he's wrong, then he loses \$5.

It turns out that Smith has the exact same evidence that the ship is seaworthy that the sea captain has, and accordingly  $C(\text{seaworthy}) = .9$  and  $C(\text{not seaworthy}) = .1$ . We can represent Smith's scenario with the following table:

	ship is seaworthy	ship is not seaworthy
bet ship is seaworthy	+5	-5
bet ship is not seaworthy	-5	+5

$EU(\text{bet seaworthy}) = 4$ , whereas  $EU(\text{bet not seaworthy}) = -4$ . Thus the actual rankings of Smith's actions are:

1. Bet seaworthy
2. Bet not seaworthy

What about the rankings of the Smith's actions conditional on the ship's being

seaworthy? With this constraint,  $EU(\text{bet seaworthy}) = 5$ , while  $EU(\text{bet not seaworthy}) = 5$ . Thus the rankings of the Smith's actions conditional on the ship's being seaworthy are as follows:

1. Bet seaworthy
2. Bet not seaworthy

The order of the Smith's actual rankings do not differ from his rankings conditional on the ship's being seaworthy. Thus, the gap for the Smith makes no practical difference, and accordingly, Smith's strength of epistemic position with respect to the ship's being seaworthy is *practically adequate*.

With this understanding of practical adequacy we can repeat with greater clarity the version of pragmatic encroachment with which we'll work. If one knows that  $p$ , then one's epistemic position with respect to  $p$  is practically adequate. Notice that if this is right, then Smith knows that the ship is seaworthy while the sea captain does not---even though they have the same rational credence in the same proposition and both of their beliefs are true and ungettiered. Thus, if practical adequacy is a necessary condition for knowledge, then pragmatic encroachment is true. Fallibilism is required for this point to go through, and the practical adequacy version of pragmatic encroachment plausibly entails fallibilism, assuming that practical adequacy is supposed to be a non-trivial necessary condition on knowledge. For suppose fallibilism is false. Then, if S knows that  $p$ , then S's rational credence with respect to  $p$  must be 1. But then S's epistemic position with respect to  $p$  is guaranteed to be practically adequate. Accordingly it would be impossible to construct a pair of cases such that in the first case S knows that  $p$  and in the second case S doesn't know that  $p$  merely because S's belief is practically inadequate.

Thus, if fallibilism is false, the practical adequacy version of pragmatic encroachment would be false, or at best trivial.<sup>80</sup> We, therefore, assume fallibilism for the remainder of the paper.

Others characterize pragmatic encroachment using practical adequacy. Here again are Anderson and Hawthorne (forthcoming): “This [the distinction between practically adequate and practically inadequate epistemic positions] can be turned into a test on knowledge: one knows *p* only if one’s strength of epistemic position is practically adequate” (p. 4). And here are Fantl and McGrath (2002), in the first systematic defense of pragmatic encroachment in the recent literature: “*S* is justified in believing that *p* only if, for all acts *A*, *S* is rational to do *A*, given *p*, iff *S* is rational to do *A*, in fact” (p. 78).<sup>81</sup> We take our development of this view to be the same as these versions, at least with respect to the features that matter for our purposes.

At this point, we hope we have made clear what the practical adequacy version of pragmatic encroachment *is*. But one is left wondering whether it’s worth taking seriously. So the time has come to (very briefly!) motivate the view. Some pragmatic encroachers appeal directly to intuitions about cases like those articulated above. They ask one to consider directly whether the sea captain knows that the ship is seaworthy, and whether the passerby knows that ship is seaworthy. The idea is to get a difference in intuition in these cases, and then point out that the only difference has to do with one’s practical setting. This, of course, doesn’t get one all the way to the practical adequacy version of pragmatic encroachment, but it would get one to pragmatic encroachment more generally.

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<sup>80</sup> Cf. Anderson and Hawthorne, p. 5.

<sup>81</sup> See also Fantl and McGrath (ms.) p. 2. Stanley (2005) defends a similar type of pragmatic encroachment.

However, there are also more theoretical routes. Here is one.<sup>82</sup> Suppose there is a practical adequacy constraint on rational action. That is, suppose that if one can rationally act on one's belief that  $p$ , then one's epistemic position with respect to  $p$  is practically adequate. If the appropriate action conditional on  $p$  is different than the appropriate action given one's actual credence, then one cannot rightly act on one's belief that  $p$ . If that is right, then the sea captain cannot rightly act on her belief that the ship is seaworthy, for the reasons noted above. The passerby, however, can go ahead with that bet. Further, though, many epistemologists are attracted to the thought that there is an intimate connection between knowledge and rational action. To ease the discussion, we'll stick with the most straightforward such connection, the idea that if one knows that  $p$ , then one can rationally act on one's belief that  $p$ .<sup>83</sup> Coupled with a knowledge-action principle like this, the practical adequacy constraint on rational action (together with fallibilism), entails that if one knows that  $p$ , then one's epistemic position with respect to  $p$  is practically adequate. The examples above, then, display that it's possible for one person to know that  $p$  while another does not, even if the only difference between them is their practical situation. In the sea captain-passerby case, for example, the passerby knows that the ship is seaworthy while the sea captain does not. Importantly, even if you deny that *these* cases are examples of this phenomena, it is still true that the *structure* of these cases is enough to display the possibility, under the relevant assumptions. Committing to such possibilities is just committing to the practical adequacy version of pragmatic encroachment.<sup>84</sup>

### 3 WAGERING ON PRAGMATIC ENCROACHMENT

Suppose the practical adequacy version of pragmatic encroachment is true. We

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<sup>82</sup> For another, see chapter one of Fantl and McGrath (2009).

<sup>83</sup> For discussion, see e.g. Anderson (forthcoming), Hawthorne and Stanley (2008), and Williamson (2000).

<sup>84</sup> For a very different variety, see Schroeder (2012) and Ross and Schroeder (forthcoming).

believe that there is an important consequence of this view for religious epistemology, namely, it is more difficult to know that atheism is true (if it is) than it is to know that God exists (if God does exist). To see this, consider the decision table below, which we can use to represent what one's faced with when one considers Pascal's Wager:

	God exists	atheism is true
believe God exists	Infinite Goodies	Minimal Baddies
believe atheism is true	Infinite Baddies	Significant Goodies

Before we start, it's worth noting that there are a number of problems with this set-up of the decision table, and we'll discuss some of those below. We've deployed this set-up only to illustrate the underlying point we're driving toward. We'll make that point more cautiously as we repair the decision table.

Throughout, our decision tables have 'believe God exists' as one of the relevant actions. By 'believe God exists' we mean believe in that way that classical Christianity has supposed is necessary and sufficient for (though not the ground of!) one's salvation. You might think that belief is not an act that can be undertaken, so that the possible actions in our set-up are inappropriate. Peterson (2009), for example, says that appropriate actions should be "alternatives", and,

the set  $A$  is an *alternative-set* if and only if every member of  $A$  is a particular act,  $A$  has at least two different members, and the members of  $A$  are agent-identical, time-identical, performable, incompatible in pairs and jointly exhaustive. (p. 29, emphasis in original)

Believing that such-and-such is, according to popular epistemological lore, not

“performable”, in that what we believe is not up to us. Further, it is likely the case that we can have inconsistent beliefs, and so believing that God exists and believing that atheism is true may not be incompatible. Neither are those believings jointly exhaustive, as we’ve noted above. If all this is right, then using ‘believe that God exists’ and ‘believe that atheism is true’ as the alternative actions is an inappropriate way to set up the table.

Suppose all that’s right. We still think our argument succeeds, for there are actions characteristic of God-believing that can serve as one of a pair that forms the right sort of alternative-set. For example, consider the act of repenting of one’s sin, or of being baptized in the name of the Father, Son, and Holy Spirit, or of worshipping the Triune God. The set {repent, do not repent} are an alternative-set, in Peterson’s sense. Consider the decision table so constructed. (Since there are a great many sub-cases of not repenting, not being baptized, etc., how to fill in certain cells, once the bells and whistles are added, will be a complicated matter.) Faced with such a decision, and attaching all the bells and whistles developed in response to the other worries developed below, it still takes stronger evidence to have practically adequate belief that God does not exist than it does to have practically adequate belief that God exists, if there is pragmatic encroachment. Using the alternative set {believe God exists, believe atheism is true}, however, is easier to understand, so we will stick with that set-up in the sequel.

With those preliminaries in mind, consider what it would take to have a practically adequate belief in atheism: it would take certainty that atheism is true. Why? First, because the costs of error, the costs of falsely believing that atheism is true, are grave indeed: Infinite Baddies. In the calculation of the expected utility of believing that atheism is true, therefore, any chance that God exists is multiplied by an infinite positive value, and will therefore swamp the potential for getting the Significant Goodies that come with truly believing that atheism is true. Second, because you’ll lose out on Infinite

Goodies by not believing that God exists, if God does. Therefore, in the calculation of the expected utility of believing that God exists, any chance that God exists will be multiplied by an infinite value, and will swamp the potential for getting the Minimal Baddies that come with falsely believing that God exists. Which is to say, unless you are certain that atheism is true, the expected utility of believing that God exists is guaranteed to be greater than the expected utility of believing that atheism is true. Therefore, only certainty that atheism is true can be practically adequate. For the same reason, any non-zero credence that God exists is sufficient for a practically adequate epistemic position for God exists. No doubt one would be irrational for believing that exists if one's evidence warrants a rational credence of only, say, 0.000001. But if one wound up believing with such slender evidential warrant, one's epistemic position would nonetheless be practically adequate.

If all that is right, our conclusion follows: if practical adequacy is a necessary condition for knowledge, then one needs better evidence to know that atheism is true than one needs to know that God exists. On this setup, for one's epistemic position to be practically adequate with respect to the proposition that atheism is true, one's evidence must make it rational for one to be certain that atheism is true. On the other hand, one's evidence needn't warrant anything nearby certainty that God exists in order for one's epistemic position for God exists to be practically adequate.

Two worries: First, you might think that infinite utilities are problematic, especially in decision theoretic contexts. Second, you might think our decision table is missing columns. As will emerge, these worries warrant mild revisions in the conditional we're defending, but none will impact the fundamental point.

Before getting to those worries, we want to comment on the connection between our claim and Pascal's Wager. We're doing this because, given that we're appealing to

Pascal's Wager, it's natural to think that all the problems for Pascal's Wager, of which there are legion, will be a problem for our thesis. This connection might be thought to be supported by the fact that the two worries we claim we'll deal with are equally worries for Pascal's Wager. But it's false that any problem for Pascal's Wager is a problem for our claim. In order to see this, it's helpful to consider (roughly) what the conclusion of Pascal's Wager is, and how it purports to secure this conclusion. The conclusion: one ought to believe in God, or at least set about doing things that will bring about such belief. The path to this conclusion: belief in God is practically rational, and if something is practically rational then one ought to believe it. Notice that our thesis says nothing about what one ought to believe about God, so if Pascal's Wager fails on account of its conclusion this spells no trouble for our thesis. Second, the consequent of our thesis doesn't entail that belief in God is practically rational--it only entails that it is *easier* for belief in God to be practically rational than it is for belief in atheism to be practically rational. Our claim is, for these two reasons, weaker than Pascal's Wager. So the problems for Pascal's Wager that have to do with these two points are not problems for our claim. We will, therefore, focus only on problems for Pascal's Wager that have to do with setting up the decision table. This is where the respective problem classes overlap.

### **3.1 First Worry: Infinite Utilities are Problematic**

In the literature on Pascal's Wager, one finds arguments to the effect that invoking infinite utilities in the set-up of the Wager is problematic.<sup>85</sup> And in the literature on decision theory, one finds arguments to the effect that invoking infinite utilities are problematic in every decision theoretic context.<sup>86</sup> We think it's right that infinite utilities

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<sup>85</sup> Cf. Jeffrey (1983) and McClennen (1994).

<sup>86</sup> Infinite utilities are in conflict with the continuity axiom, an axiom that is normally taken as part of basic decision theory, and thus it's common for decision theorists to deny that there are infinite utilities. Furthermore, denying that there are infinite utilities offers an attractive resolution of the St. Petersburg paradox. Lastly, even if there are infinite utilities it's implausible that finite humans are the sort of beings

are problematic. Thus, we need to rewrite the table. We might do like this:

	God exists	atheism is true
believe God exists	Super-Great Goodies	Minimal Baddies
believe atheism is true	Super-Terrible Baddies	Significant Goodies

Even set up this way, it is still the case that one needs better evidence to know that atheism is true than one needs to know that God exists. This is the case because one still needs better evidence to have a practically adequate epistemic position with respect to the proposition that atheism is true than one does to have a practically adequate epistemic position with respect to the proposition that God exists. The reason is similar to that given above, only that certainty is no longer required in order to be in a practically adequate epistemic position with respect to the proposition that atheism is true.

To be fair, the move away from infinite utilities exposes a gap in the argument, but one that can be filled with independently plausible premises. Here is the gap. Suppose one thought, independently of pragmatic encroachment, that there was a “floor” rational credence for knowledge: a rational credence such that, no matter what is going on in one’s practical situation, one must have evidence sufficient to warrant a credence above the floor for one to be in a position to know. It is possible, if there is such a floor, that the rational credence required for a practically adequate epistemic position to be below the floor for certain propositions. In such cases, it might still be that the strength of evidence required for a practically adequate epistemic position might be asymmetric. And if that is

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that could ever secure them, so infinite utilities should be effectively ignored for human decision problems. Thus, there are some general reasons to doubt that there are infinite utilities, at all, or at least for humans.

so, then the fact that one needs better evidence to be in a practically adequate epistemic position with respect to one proposition than one needs to be in a practically adequate epistemic position with respect to another proposition *does not* entail that one needs better evidence to be in a position to know the former than one needs to be in a position to know the latter. Let's run through a toy example. Say the knowledge floor is .8, and consider again our friend Smith, considering whether to bet that the ship is seaworthy, but with the following slightly modified decision table:<sup>87</sup>

	ship is seaworthy	ship is not seaworthy
bet on ship is seaworthy	+10	-5
bet on ship is not seaworthy	-5	+5

In this case, for Smith to be in a practically adequate epistemic position with respect to the ship's being seaworthy,  $C(\text{seaworthy}) > .4$ . On the other hand, for Smith to be in a practically adequate epistemic position with respect to the ship's not being seaworthy,  $C(\text{not seaworthy}) > .6$ . In this case, better evidence is required for Smith to be in a practically adequate epistemic position with respect to the ship's being seaworthy than is required for her to be in a practically adequate epistemic position with respect to the ship's not being seaworthy. But, we are assuming, the floor rational credence needed for knowledge is .8. Therefore, if Smith is to be in a position to know either of these propositions, she needs a rational credence of .8. If she had that, she would be guaranteed to have a practically adequate epistemic position. The practical adequacy constraint, in

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<sup>87</sup> We invite the reader to fill in the details of the story in order to make the utilities come out this way.

such a case, adds no further demand. Therefore, it is true that one needs better evidence to practically adequate in such a case, but not better evidence to be in a position to know.

We can fill this gap in the case with which we're concerned. The filling comes in two stages. First, the decision table involved with the Wager can be filled in with fairly modest values and still exact a heavy price with respect to the demands it places on being in a practically adequate epistemic position with respect to the proposition that theism is false. For example, consider this set-up:

	God exists	atheism is true
believe God exists	+500	-5
believe atheism is true	-200	+50

Here, the assumptions are that it's ten times as good to get an eternal heavenly life than it is to live a finite atheistic life in conformity to the atheistic truth, that it's two and half times as good to go to heaven as it is bad to go to hell, and that it's ten times better to live a finite atheistic life in conformity to the atheistic truth than it is to live a finite theistic life and be wrong that theism is true. This seems to stack the deck *against* the practical rationality of believing God exists. Nonetheless, in such a case,  $C(\text{atheism}) > .93$  in order to have a practically adequate epistemic position with respect to atheism's truth. (One gets this by using an inequality similar to the one we used for the sea captain case, above in section 2.) If one were to fuss with the ratios noted above in order to make them more favorable to believing God exists, then the rational credence needed for practical adequacy goes even higher. For example, suppose one changed the top left box to +5,000, which would be to insist that, for example, an eternal heavenly life is but 100

times better than a finite atheistic life lived in conformity to the atheistic truth, then practical adequacy for atheism's truth requires  $C(\text{atheism}) > .99$ , which is well-nigh certainty. In our view, that is still a conservative set-up. It can only get harder to have a practically adequate epistemic position that atheism is true.

Now for the second stage in the gap-filling process. It is plausible that the floor rational credence required for knowledge will be lower than what it takes to have a practically adequate epistemic position with respect to the proposition that atheism is true. For there seem to be a number of propositions that we know for which there is nowhere near certainty. Consider, for example, Smith's knowledge that the ship is seaworthy. The floor there seems fairly easy to reach, evidentially speaking. Further, pragmatic encroachers, if they want their pragmatic encroachment to actually matter, ought to go in for a fairly low floor. For the higher the floor, the less space there is for practical adequacy to be a serious necessary condition on knowledge. The closer to certainty the floor becomes, the more the practical adequacy condition becomes trivial. Now, we take no stand on what, exactly, a plausible floor is. Again, though, even with the conservative set-ups above, the demands for being in a practically adequate epistemic position with respect to the proposition that atheism is true are *very* high, higher we think than a plausible floor credence for knowledge.

Some still might object that heaven is simply not only not better than this-worldly goodies, but would actually be a bad thing, were one to get in. If heaven turns out to be more baddies than goodies, then it is clear that our conditional is false. But we don't think this is right. It may be that this objection assumes that one couldn't be wrong about what is good for one. On the classical Christian conception, after all, heaven is meant to be the best possible life, lived for eternity. Whatever that best life is, that sounds pretty great. And no matter what one's theory of the good life is, so long as it doesn't beg the question

against heaven being good, we can simply stipulate that in heaven one has that sort of life for a really, really long time. So, whatever makes for this-worldly goodies, in heaven, either you'll just have more of those goodies for longer, or you'll get even better goodies for longer. Either way, getting heaven is getting Super-Great Goodies.

### 3.2 Second Worry: The Decision Table is Missing Columns

You might think that it's not so obvious that one is guaranteed minimal baddies by believing falsely that God exists. For example, maybe Islam is true. Or maybe there's a Deviant Deity (hence, DD), a deity that punishes believers to the exact extent that the classical God punishes non-believers and rewards non-believers to the exact extent that a classical God rewards believers. These possibilities force us to add columns to our decision table, and correspondingly alters the expected utility calculations. We'll first dwell on the DD case in detail, then the Islam case, and then we'll say something more general.

Adding the DD possibility, the decision table might look like so:

	God exists	atheism is true	a Deviant Deity exists
believe God exists	+500	-5	-200
believe atheism is true	-200	+50	+500

To see the impact that this added column has on our thesis, let's suppose  $C(\text{God}) = C(\text{DD}) = .1$ ; thus,  $C(\text{atheism}) = .8$ . Accordingly,  $EU(\text{believe God}) = 26$ , while  $EU(\text{believe atheism}) = 34$ . The rankings of actions on these credences is, therefore:

1. Believe that atheism is true

## 2. Believe that God exists

Indeed, given that conditional on atheism,  $EU(\text{believe God}) < EU(\text{believe atheism})$ —that is, given that the value in the first row-second column cell is less than the value in the second row-second column cell—whenever  $C(\text{God}) = C(\text{DD})$ , one's actual rankings of these actions will be the same as one's rankings of these actions conditional on God's not existing, unless  $C(\text{atheism}) = 0$ . Putting this together, if  $C(\text{God}) = C(\text{DD})$ , then one's strength of epistemic position for the proposition that atheism is true is almost trivially practically adequate. All one needs is  $C(\text{atheism}) > 0$ .

However, things change quickly if  $C(\text{God}) > C(\text{DD})$ . For example, suppose  $C(\text{God}) = .14$  and  $C(\text{DD}) = .06$ ;  $C(\text{atheism}) = .8$  in this case as well. Then  $EU(\text{believe God}) = 54$ , while  $EU(\text{believe atheism}) = 42$ . When  $C(\text{God})$  is greater than  $C(\text{DD})$  by this small margin,  $EU(\text{believe God}) > EU(\text{believe atheism})$ . Thus, when the credences are fixed in this way,  $C(\text{atheism}) = .8$  is *not* practically adequate. Also, when the rational credences are fixed in this way,  $C(\text{God}) = .14$  is practically adequate for God's existence. Thus, if one's credences were the same as those in the above example, then the smallest rational credence that makes the proposition that God doesn't exist practically adequate is much higher than the smallest rational credence that makes the proposition that God exists practically adequate.<sup>88</sup>

It is here we stick our necks out a little: evidence that God exists is stronger, indeed we think it's quite a bit stronger, than the evidence that a DD exists. Why think this? The only reason to think that a DD exists is that it's not metaphysically impossible for a DD to exist. While God's existence is also not metaphysically impossible, there are

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<sup>88</sup> More generally, with the decision table set up this way, if  $C(\text{God exists}) = 2(C(\text{DD exists}))$ , then practically adequate atheistic belief requires  $C(\text{atheism is true}) > .81$ ; and if  $C(\text{God}) = 3(C(\text{DD}))$ , then practical adequacy requires  $C(\text{atheism}) > .86$ . Practically adequate belief in God comes at much smaller credences. See below for insights into how we calculated these values.

many other reasons to think that God exists: historical reasons, empirical reasons, a priori reasons, and so on. This is not the place to inventory these reasons in detail, but we find that they make the probability that God exists significantly higher than the probability that a DD exists, and that this difference is significant enough to make the practical adequacy constraint non-trivial for the atheist. We doubt we're alone in this evaluation. Accordingly, a DD poses no threat to our thesis, even if the probability that God exists and the probability of that a DD exists are both very low.

You might think the foregoing argument is too fast, that indeed there is as much evidence to think that a DD exists as there is reason to think that God exists. In fact, you might think that every bit of evidence there is for God's existence is equally good evidence for a DD, since a DD is the kind of God that would set things up to make people think God exists. Insofar as one takes there to be evidence for God, then, one must also think there is evidence for a DD. This is not so. Here is an analogy: suppose one is married. If the foregoing were true, then every bit of evidence that one has a non-temporally gappy spouse is equally good evidence that one has a spouse who ceases to exist whenever he sleeps, to be replaced by a robot simulacra that behaves just like a non-temporally gappy spouse would behave in his sleep. But that is crazy. The evidence you have does not equally support these two theories. And it is clear which theory the evidence supports. The general idea is this: if you think that any evidence you have for God's existence is equally evidence for the existence of a DD, then you're a skeptic. If skepticism is true, then this paper is unsuccessful. But this, of course, is a problem for everyone who isn't a skeptic.<sup>89</sup>

Matters are different when it comes to more serious alternatives to God's existence than a DD. For example, Islam, universalist versions of Christianity, and so on

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<sup>89</sup> Thanks to David Sosa for conversation here.

pose a more serious challenge. Let's consider the Islam case. We'll need another row in our decision table, since unlike with a DD, believing that the God of Christianity (hereafter, 'C-God') does not exist is not enough to guarantee the goodies or the baddies if Islam is true.<sup>90</sup> Assuming the same utilities as before, and assuming that the heavenly goodies and hellish baddies for Islam and Christianity are equivalent in magnitude, the decision table looks like this:

	C-God exists	atheism is true	I-God exists
believe C-God exists	+500	-5	-200
believe atheism is true	-200	+50	-200
believe I-God exists	-200	-5	+500

In such a set-up, things are much worse for the atheist if  $C(\text{C-God}) = C(\text{I-God})$ , compared to the DD case. In the DD case, we noted that any non-zero credence in the truth of atheism was sufficient for practical adequacy so long as  $C(\text{C-God}) = C(\text{DD})$ . When  $C(\text{C-God}) = C(\text{I-God})$ , the minimally strong epistemic position needed for practically adequate atheistic belief is  $C(\text{atheism}) > .86$ . Here's how we get that value. What we need is the smallest value of  $C(\text{atheism})$  such that  $EU(\text{believe atheism}) >$

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<sup>90</sup> We use 'believe I-God exists' rather than 'keep the 5 pillars' or some such. Compare the discussion at the beginning of section 3.

EU(believe I-God) and EU(believe atheism) > EU(believe C-God). Let  $x = C(\text{I-God}) + C(\text{C-God}) = 2(C(\text{I-God})) = 2(C(\text{C-God}))$ . Then  $C(\text{atheism}) = 1 - x$ . On the above table, we can now see that  $EU(\text{believe atheism}) = (x/2)(-200) + (1 - x)(+50) + (x/2)(-200) = 50 - 250x$ .  $EU(\text{believe I-God}) = EU(\text{believe C-God}) = (x/2)(+500) + (1 - x)(-5) + (x/2)(-200) = 145x - 5$ . So, for practically adequate atheistic belief, one must determine the value of  $x$  in  $50 - 250x > 145x - 5$ ; this yields  $x < 55/395$ , or (roughly)  $x < .14$ . Since  $C(\text{atheism}) = 1 - x$ , practically adequate atheistic belief requires  $C(\text{atheism is true}) > .86$ .

Another case: if  $C(\text{C-God}) = 2(C(\text{I-God}))$ , then the minimally strong epistemic position needed for practically adequate atheistic belief is  $C(\text{atheism}) > .895$ . The set-up is as in the previous paragraph, except that instead of  $x/2$  in the expected utility calculations, one must use  $2x/3$  for  $C(\text{C-God})$  and  $x/3$  for  $C(\text{I-God})$ . This is because, under the current assumption,  $x = C(\text{I-God}) + C(\text{C-God}) = C(\text{I-God}) + 2(C(\text{I-God})) = 3(C(\text{I-God}))$ . Since  $EU(\text{believe C-God}) > EU(\text{believe I-God})$  when  $C(\text{C-God}) > C(\text{I-God})$ , determine the needed value of  $x$  by solving for  $x$  in  $EU(\text{believe atheism}) > EU(\text{believe C-God})$ . Using the values from the above table, (roughly) one needs  $x < .105$ . Thus, practically adequate atheistic belief requires  $C(\text{atheism}) > .895$ . The situation when  $C(\text{I-God}) = 2(C(\text{C-God}))$  is symmetrical to this one. In the limiting case, in which either  $C(\text{I-God})$  or  $C(\text{C-God})$  goes to zero while the other remains non-zero, the situation reduces to the original two-column table above. So the minimally strong epistemic position needed for practically adequate atheistic belief is  $C(\text{atheism}) > .93$ .<sup>91</sup> The most it

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<sup>91</sup> These points together flag a problematic consequence of the practical adequacy version of pragmatic encroachment: sometimes, one can go from not knowing  $p$  to knowing  $p$  by getting evidence *against*  $p$ . For example, the atheist might come to satisfy the practical adequacy constraint, and thereby come to know that atheism is true, by getting some evidence that I-God exists. To see this, consider a subject who has the following rational credences:  $C(\text{atheism}) = .9$ ,  $C(\text{C-God}) = .1$ , and  $C(\text{I-God}) = 0$ . Since this is just a two column case,  $s$ 's .9 credence in atheism is under the .93 practical adequacy threshold, and is practically inadequate. Now suppose that  $s$  gets some evidence that leaves her with the following set of credences:  $C(\text{atheism}) = .88$ ,  $C(\text{C-God}) = .6$ , and  $C(\text{I-God}) = .6$ . Now  $s$  is in a 3 column case such that  $C(\text{C-God}) = C(\text{I-God})$ , and in such a case  $s$ 's epistemic position with respect to atheism is practically adequate since  $s$ 's credence in atheism is  $> .86$ . See Eaton and Pickavance (2015).

can take, on the other hand, to have practically adequate belief that the C-God exists is  $C(\text{C-God}) > .5$  because that is the most it takes to guarantee that  $EU(\text{believe C-God}) > EU(\text{believe I-God})$ . If  $C(\text{C-God}) > .5$ ,  $EU(\text{believe C-God}) > EU(\text{believe atheism})$  no matter how much of one's non-C-God possibility space is occupied by atheism. That .5 number decreases as  $C(\text{atheism})$  increases relative to  $C(\text{I-God})$ . Putting all this together, so long as the floor rational credence required for knowledge is set fairly low, our conditional looks promising. Importantly, this is true as well when one formulates the conditional using 'I-God' rather than 'C-God'. The most it can take to have practically adequate belief that the I-God exists is  $C(\text{I-God}) > .5$ , and that number decreases as  $C(\text{atheism})$  increases relative to  $C(\text{C-God})$ . The cases, so long as the heavenly goodies and hellish baddies are symmetrical, are equivalent.

The foregoing, as we hope we've made clear, assumes a particular way of filling out the decision tables associated with Pascal's Wager. And generalizing these points to different ways of filling out the decision table isn't so easy, since there are so many variables. However, we believe we have stacked the deck in favor of the atheist, and that can be revealed by making two observations. First, we've assumed a modest view of the magnitude of the heavenly goodies and hellish baddies relative to the magnitudes of the goodies and baddies of a this-worldly life. Moving to less modest such views makes it even more difficult to be in a position to know that atheism is true (other things being equal). Second, we've assumed a smallish gap between the heavenly goodies and hellish baddies. The smaller that gap, the less difficult it is to be in a position to know that atheism is true (other things being equal). Alternatively, the larger that gap, the more difficult it is to be in a position to know that atheism is true. We think a more realistic decision table will be less favorable to the atheist on both of these dimensions.

How things work out for our conditional will be a function of how, exactly,

goodies and baddies are distributed, and how, exactly, the probability space is filled. Given the number of variables, there is little hope to say much that is both helpful and general in the context of a paper like this. At the end of the day, we leave it to individual readers to test our claim for their particular decision tables. However, three observations are in order, each contingent on the plausible assumption that there are no humanly achievable goodies greater than those of heaven and no humanly achievable baddies worse than those of hell. First, the most it can take to have practically adequate belief that C/I-God exists is  $C(C/I\text{-God}) > .5$ . And second, for the atheist to be in a practically adequate position with respect to the truth of atheism, either  $C(\text{atheism})$  must be very high, well above .5, or she must take possibilities like a DD to be nearby as likely as the classical religions. We suspect such probability spaces are unusual.<sup>92</sup>

Thus concludes our defense of the claim that if there is pragmatic encroachment, then it is more difficult to be in a position to know that atheism is true than it is to be in a position to know that God exists. For this conditional to be true, there must be no infinite utilities, there must be a lowish “floor” rational credence for knowledge, and it must be rational to have a higher credence in a monotheistic God than in a Deviant Deity. These constraints are substantive, but they are very plausible, and can be motivated independently of a desire to defend this conditional. Infinite utilities lead to paradox. Fallibilists, especially pragmatic encroachers, should want a lowish floor rational credence. And thinking that one has as much evidence for a Deviant Deity as one does for a monotheistic God is at best tantamount to skepticism.

One final point. That this conditional is true is important. It is often assumed that

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<sup>92</sup> If you disagree with us about whether there are infinite utilities, the worry about missing columns becomes much more difficult to deal with. We’re very confident we can still respond to the problem posed by a DD if there are infinite utilities. We believe, though are less confident, that we can respond to the problem posed by other monotheistic religions. Since we believe infinite utilities are problematic, and since developing our responses in decision theoretic contexts with infinite utilities would take a great deal of space, we will not discuss these matters here.

theism is an extraordinary claim, and that extraordinary claims require extraordinary evidence; thus, one needs extraordinary evidence to know that a monotheistic God exists.<sup>93</sup> One sees this picture embodied in principles like Anthony Flew's (1976) "presumption of atheism". More recently, Stephen Law (2011) argues, on the basis of these kinds of claims about evidence, that one ought not believe that Jesus of Nazareth even existed. In a similar vein, Paul Kurtz (1986) writes that, "Extraordinary claims thus require extra degrees of evidence. Thus, before we can invoke miraculous or occult explanations that overturn well established laws and regularities of experience and nature, we would need very strong evidence" (p. 50).

It's plausible that Hume is expressing a similar thought in Section X, Of Miracles, in his *Entreaty Concerning Human Understanding*. He argues that whenever one is given the choice between two miraculous options, one rationally ought to believe in the lesser miracle. Thus, when someone tells you some mundane fact, you are faced with a choice: you can believe the mundane fact or you can believe that the testifier in question hasn't spoken truly. Mundane facts aren't at all miraculous. Someone ruining their credibility as a testifier by lying about a mundane fact is very unusual or quite miraculous. Thus, according to Hume's view, one should believe the mundane fact, and not that the testifier in question is lying (or that they have been lied to). When it comes to miraculous facts, however, much stronger testimony is required, that is, "no testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous, than the fact, which it endeavors to establish..." (EHU 10.13) Thus, greater testimonial evidence is required to establish a miraculous fact than is required to establish a mundane fact. Now suppose that the following is true: the monotheisms make loads of miraculous claims that are only supported by testimony, and that atheism makes

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<sup>93</sup> The principle that extraordinary claims require extraordinary evidence is commonly associated with Carl Sagan.

no miraculous claims.<sup>94</sup> It follows from this and Hume's view that it takes much greater testimonial evidence to establish any of the monotheisms than it does to establish atheism.

What we have shown is that, if the practical adequacy version of pragmatic encroachment is true, then the usual set-up has the situation exactly backwards. Atheism requires more extraordinary evidence than the monotheisms.

We take no stand here as to whether one ought affirm the antecedent or deny the consequent of the conditional we defend. Maybe it's the case that there's an asymmetry between what it takes to be in a position to know that atheism is true and what it takes to be in a position to know that God exists. But maybe pragmatic encroachment is false.

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<sup>94</sup> We don't think this is true, but this supposition makes it easier to draw out the contrast between Hume's view and ours.

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