Original Article

##### Knowledge, reasoning, and deliberation

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Abstract

Epistemologists have become increasingly interested in the practical role of knowledge. One prominent principle, which I call PREMISE, states that if you know that p, then you are justified in using p as a premise in your reasoning. In response, a number of critics have proposed a variety of counter-examples. In order to evaluate these problem cases, we need to consider the broader context in which this principle is situated by specifying in greater detail the types of activity that the principle governs. I argue that if PREMISE is interpreted as governing deductive reasoning, then the examples lose their force. In addition, I consider the cases, discussed by Keith DeRose, where the subject is in more than one practical context at the same time. In order to account for these latter cases, we need to further specify the scope of PREMISE. I distinguish two ways of understanding PREMISE, as a knowledge-action principle and as a knowledge-deliberation principle. I conclude by arguing for the knowledge-deliberation version of the principle and by exploring what this principle says about the practical role of knowledge.

Keywords: decision theory, knowledge-action norm, practical reasoning, pragmatic encroachment, purism

Suppose you recite the following argument to yourself.

I locked the front door of my house.

If I locked the front door of my house, then I may to continue driving to my meeting.

$∴$ I may continue driving to my meeting.

While this argument is valid, its validity does not entail that you are justified in employing this argument. To be justified in employing this argument, you must be justified in using both premises in reasoning and in order to be justified using these premises, you must have good reason to think that they are true. But how strong of an epistemic state must you be in with respect to the premises you use in your reasoning? In recent years, epistemologists have used this question to explore the practical role of knowledge. And the following widely discussed proposal suggests that knowledge plays an important role:

**PREMISE:** If you know that *p*, then you are justified in using *p* as a premise in reasoning.[[1]](#footnote-1)

Of course, knowing all the premises is not sufficient for justifiably employing a deductive argument to the conclusion that *q*. So PREMISE is naturally paired with the following type of principle:

**INFERENCE:** If you know that a set of premises *P* entails that *q* then you are justified in making an inference from *P* to *q*.

 As it stands, INFERENCE is problematic since knowledge of entailment may not be sufficient for the justifiable performance of an inference. For example, one may be told by a expert mathematician that some theorem is entailed by a set of axioms, but without any idea of why this entailment holds, it is not clear that one can justifiably and skillfully perform the relevant inference. These problems can be set aside since the discussion that follows will solely be focused on PREMISE. I only introduce INFERENCE to note that we need both types of principles to fully characterize a sufficient condition for when one is in a strong enough epistemic position to employ a valid deductive argument. Together, PREMISE and INFERENCE state that employing known premises known to entail some conclusion justifies you in employing a deductive argument in your reasoning to that conclusion.

At first glance, deductions that adhere to both principles are good in two respects. First, they are correct because the arguments are sound. Second, the subject is justified in using such an argument because the subject stands in a strong epistemic relation to the fact of the argument’s soundness. Furthermore, it is worth noting that these principles specify when one possesses sufficiently strong propositional or ex ante justification to employ an instance of reasoning rather than when one possess sufficiently strong doxastic or ex post justification to do so. Since the use of propositions in reasoning requires that one adopts some pro-attitude toward the premises, it seems suitable to talk about propositional versus doxastic justification. However, if one finds such talk strange, nothing is lost by appealing to the ex ante vs ex post distinction. So these principles focus on what it is to be in a strong enough epistemic state with respect to an argument rather than what it is to reason well in general. This point will become particularly important when we consider the practical role of knowledge in $§$2.

PREMISE has received attention because of its importance to the debate about pragmatic encroachment in epistemology.[[2]](#footnote-2) However, this principle is independently important for understanding the practical role of knowledge.[[3]](#footnote-3) Thus, criticisms of PREMISE have been motivated both by resistance to pragmatic encroachment as well as worries about the practical role that PREMISE proposes for knowledge. And the strongest objections to PREMISE have come by way of counter-examples.[[4]](#footnote-4)

While the primary aim of this paper is to provide a defense of PREMISE, I believe that the only way of adequately doing so is by situating PREMISE within a broader practical and theoretical context. More specifically, we need to specify in greater detail the type of activity that PREMISE governs.[[5]](#footnote-5) In $§$1, I use the various problem cases to precisify PREMISE as governing deductive reasoning in the context of deliberation. In $§$2, I discuss two potential objections to explore what my interpretation of PREMISE says about the practical role of knowledge.

## 1 COUNTER-EXAMPLES TO PREMISE

A variety of counter-examples have been proposed against PREMISE. The first set of cases, $§$1.1-1.3, purports to show that PREMISE delivers the wrong results in cases where we adjust the stakes or odds in the right way. Another set of cases, $§$1.4, purports to show that PREMISE has unacceptable consequences for one’s epistemology when the subject is in more than one practical context at the same time.

### 1.1 High Stakes

**Case #1: Affair** A husband is berating his friend John for not telling him that his wife has been having an affair even though John had known of the affair for weeks.

Husband: Why didn’t you say she was having an affair? You’ve known for weeks.

John: OK, I admit I knew, but it wouldn’t have been right for me to say anything before I was absolutely sure. I knew the damage it would cause to your marriage.[[6]](#footnote-6)

Examples such as these purport to show that PREMISE delivers the wrong results. To try and fix intuitions, I will assume the more technical language of rational permissibility borrowed from rational choice theory. So in this case, the intuition is that telling his friend is not a rationally permissible choice.

However, as Ichikawa notes, one problem with the proposed counter-example is that this intution along with the fact John knows about affair is perfectly consistent with the acceptance of PREMISE.[[7]](#footnote-7) Given PREMISE, John is justified in using the claim that his friend’s wife is having an affair as a premise in his reasoning. But that premise or reason may not be sufficient to justify the action of telling his friend. And ‘the knowledge norm...is silent on the extent of the rationalizing relation’ that specifies the necessary and sufficient conditions under which a proposition p would, ‘if held as a reason [or premise], be a sufficient reason [or premise] for performing [the action].’[[8]](#footnote-8)

Ichikawa doesn’t expound on what rationalizing relation should be paired with PREMISE. So my discussion starts where his leaves off by articulating how we can connect the premises John uses in his reasoning to judgments he makes about what he is rationally permitted to do. I propose that we can do so by considering the instances of deductive reasoning that John might use. Thus, I will only be interpreting PREMISE as a principle that together with INFERENCE identifies when one is justified in employing *deductive* arguments.

Consider a simple but obvious deductive argument that John might consider.

 1. My friend’s wife is having an affair.

 2. If my friend’s wife is having an affair, then I may tell my friend.

 3. $∴$ I may tell my friend.

To evaluate John and the subjects that follow, let us idealize them as being logically omniscient, knowing everything that is entailed by any given set of propositions. This simplification will allow us to set aside INFERENCE. Furthermore, we can begin our discussionin this case by assuming that John knows (1). But does he know (2)? It is not clear that he does. After all, he may have good reasons for not telling his friend even though he knows that what he would say is true. He may be friends with both husband and wife, leaving him in a dilemma. He may, as he says, not want to be the bearer of bad news. So if we just focus on the example as it has been presented, then we do not yet have a case where the subject clearly knows all the relevant premises and where adopting PREMISE would lead us to accept a problematic conclusion.

Jessica Brown recognizes that ‘there are a variety of non-epistemic reasons why a friend in this situation might not reveal the affair’ and so she proposes to ‘stipulate that none of these factors apply to the case in hand.’[[9]](#footnote-9) And I assume that it is under these stipulations, where John knows (2), that his final reply is meant to be ‘perfectly intelligible and plausible.’[[10]](#footnote-10) However, if Brown’s argument is meant to rely upon our linguistic intuitions, then these stipulations should be made explicit in the conversation. Suppose the conversation continues and John makes it clear that he not only knew that the wife was having an affair but knew that if the wife was having an affair, then he may have revealed this to his friend. The husband might then ask John, ‘So you believe (and also knew) that you may have told me?’ John would admit that he did believe this. Nevertheless, Brown thinks that it is perfectly intelligible and plausible for John to subsequently assert, ‘But I didn’t tell you because I wasn’t sure that your wife was having an affair.’ To my mind, the conjunction of these assertions, ‘I was permitted to tell you of the affair, but shouldn’t unless I was sure what I said was true’, sounds incredibly strange and inadmissible. The critic of PREMISE surely needs to say more to justify the linguistic intuition underlying the counter-example.

Alternatively, we can leave behind our linguistic intuitions and turn to theoretical considerations. Suppose that John is motivated solely by epistemic considerations (e.g. the desire to assert truths and avoid falsehoods). If John did take (1) for granted, then it seems fairly clear that he would achieve his epistemic goal by making the assertion. On this assumption, John knows (2). But it now seems that he is in fact permitted to tell his friend. There are, of course, other ways of interpreting this case but my general point is that we need more details to properly evaluate this type of case.

In response to Brown’s counter-example and Ichikawa’s comments, I have suggested that we can evaluate PREMISE by considering its role governing deductive reasoning. And once we consider the deductive arguments that the subject could use, the examples lose their force. In fact, on this interpretation, it is not clear that one can come up with a counter-example of the kind that Brown envisions. The view defended here is committed to both PREMISE and INFERENCE (though in my discussion we have idealized our subject so that INFERENCE can be set aside). Thus, in order to undermine PREMISE, we need a case where there is a deductively valid argument whose premises are known to subject S and whose conclusion is that S is permitted to $ϕ$, yet S is not permitted to $ϕ$. However, if there is a deductively valid argument to any conclusion and the premises are known and thereby true, then the conclusion must also be true. While an epistemology that embraces PREMISE faces other difficulties, the proposed interpretation of PREMISE (along with INFERENCE) appears to protect it from these Brown-style, wrong result counter-examples.[[11]](#footnote-11)

To further explore the full range of resources that this interpretation of PREMISE has against such counter-examples, it is worth considering a different example of this kind. The next case will also push the proponent of PREMISE to embrace pragmatic encroachment on knowledge.

### 1.2 Heavily-Weighted Odds

**Case #2: The horrible bet**[[12]](#footnote-12) Although Liz knows that she was born in England, she would be irrational to accept the bet in which she receives a millionth of a penny if she was born in England and loses $3 otherwise.

This case offers another wrong-result counter-example by presenting a case where Liz knows that she was born in England but is not permitted to accept the bet. However, as before, we need to connect the use of what she knows as premises with the judgment that she is permitted to accept the bet. Using the following argument to connect the two, this case offers a counter-example only if Liz knows the premises but the conclusion is false.

 4. I was born in England

 5. If I was born in England, then I am permitted to accept the bet

 6. $∴$ I am permitted to accept the bet.

As we have seen, the defender of PREMISE always has a few ways of responding. First, one can reply that Liz does not know (5). After all, she may think that she has nothing to gain if a millionth of a penny has zero positive utility for her. Or we may think that Liz has non-epistemic reasons not to accept the bet. Alternatively, if we make stipulations that fix Liz’s utility function so that she would know the conditional (e.g. stipulate that the prize of winning the bet has some positive utility and that there are no relevant non-epistemic factors), then (6) seems to be true.

There are, of course, gambling situations where Liz knows (5) but (6) is false. After all, if the potential loss is extremely high and her confidence not high enough, then taking the bet would maximize her expected utility conditional on her being born in England but not unconditionally. So she is not permitted to accept the bet. And if one embraces PREMISE and intuitively judges that Liz knows (4), then this type of cases presents a serious problem. In response, I believe that any epistemology that is committed to PREMISE should also be committed to pragmatic encroachment on knowledge.[[13]](#footnote-13) This pragmatic view can help to explain away the intuition that Liz knows (4). Given the huge gap between what one can gain and what one can lose, the confidence that is required for action in the case is very high, and so the standards of knowledge in this case are also very high. Therefore, pragmatists can insist that Liz does not know in this practical context.

It may be objected that this response ties the plausibility of PREMISE to that of pragmatic encroachment. However, this result is not at all surprising.[[14]](#footnote-14) Rather than being a question-begging response, this simply highlights the fact that PREMISE and pragmatic encroachment on knowledge (along with an INFERENCE-type principle) are a package deal. A coherent and plausible pragmatic epistemology is one that embraces all three.

The critic may reply that by restricting our discussion to deductive reasoning, we have defended PREMISE at the cost of robbing it of any significance. I would like to make two points in reply. First, we learned from Ichikawa’s observations that the only way to appropriately evaluate PREMISE is to situate it within a broader context that connects it to rational choice. And I have simply offered one way of doing so. In fact, this applies to every knowledge-action type principle. For any principle to be of use, we need to pair it with some account of the conditions under which an action is rationally permissible, justified, or warranted.[[15]](#footnote-15) Second, even if we limit the scope of PREMISE, the view offers some interesting insights as I hope the rest of my discussion will show.

### 1.3 Equal odds, differing stakes

Intuitively, if you have the same evidential grounds for believing p and believing q, then you know that p if and only if you know that q. But a problem case arises for PREMISE where p seems to matter and q does not in the subject’s practical context.

**Case #3: State & Main** Kate needs to get to Main Street by noon: her life depends upon it. She comes to an intersection and looks up at the perpendicular street signs labeled ‘State Street’ and ‘Main Street;. While it is a matter of complete indifference to Kate whether she is on State Street, she very much cares whether she is on Main Street. She sees both signs equally clearly and has no reason to believe that any particular street sign is more or less accurate than the other.[[16]](#footnote-16)

Intuitively, Kate knows that she is on State Street if and only if Kate knows that she is on Main Street. However, Kate’s situation suggests that the practical relevance of each proposition is quite different. A lot appears to hang on whether or not Kate is on Main Street but nothing hangs on whether on not she is on State Street. If that is correct, then since PREMISE entails that the epistemic standards required to know are different for both propositions, Kate could know that she is on State Street but not know that she is on Main Street. Fantl and McGrath respond by suggesting that we could group “related propositions” together and impose a uniform epistemic standard within each group.[[17]](#footnote-17) By viewing this case from my favored interpretation of PREMISE, we can offer a plausible response without introducing any additional technical machinery into our epistemology.

While this case differs from the previous two, I will adopt the same strategy in response. The evaluation of PREMISE requires that we consider the broader context of reasoning in which the principle applies. And if we consider instances of deductive reasoning that the subject may employ, we will find that the assumption that nothing hangs on whether Kate is on State Street is false.

Suppose that as Kate stands at the intersection, she not only considers whether she is on Main but also considers whether she is on State. Kate can come to one of four conclusions but given her evidence, her reasoning seems to be constrained by the fact that she knows that she is on State if and only if she is on Main. After all, in many cases, Kate knows that p if and only if q when the evidential grounds for believing both proposition are the same.[[18]](#footnote-18) Since it was stipulated that this was a case in which the evidential grounds were the same, then Kate has no reason to think that one sign and not the other is mistaken. So Kate’s epistemic state with respect to this bi-conditional is very strong, much stronger than her epistemic state with respect to each side of the bi-conditional. So if Kate knew that she was on State and inferred that she was on Main, then she would know the conclusion because she knows that if she is on State, then she is on Main. That is, she could employ the following piece of reasoning.

 7. I am on State Street.

 8. I am on State Street if and only if I am on Main Street.

 9. $∴$ I am on Main Street.

 Since it matters quite a bit whether Kate is on Main Street, then it matters, albeit indirectly, whether she is on State Street. Since PREMISE commits us to claiming that she does not know (9), then it also commits us to claiming that she does not know (7).

Of course, one could change the example so that Kate justifiably believes that the accuracy of the two signs is independent. Kate would thereby possess evidence that the truth of the left- and right-sides of the bi-conditional often come apart, and she would no longer know (8). However, the evidence required to add in this final detail would undermine the purpose of the example. Kate now possesses different evidence for and against the two propositions. And in this situation, we lack the intuition that Kate could not know one but not the other.

### 1.4 Multiple practical contexts

I used the previous cases to advocate an interpretation of PREMISE as a principle that governs deductive reasoning. The following cases will push us to clarify the scope of PREMISE along another dimension. Both Keith DeRose and Baron Reed have argued that PREMISE has unacceptable consequences when a subject is in two practical contexts with very different stakes. As it turns out, the cases presented by DeRose and Reed differ in an important way so I will consider them separately.

 **Case #4: The Walking Talker**[[19]](#footnote-19) Jane is a young and healthy assistant professor who has decided to take a short walk to her college benefits office to sign up for free life insurance to cover her for the year that she is away. It is rational for her to take the walk since she does not know that she will survive the year. However, on the way to the office, her friend calls and asks out of idle curiosity where Jane will be next year. She asserts that she will be back at work at her home institution.

Does Jane know or not know that she will survive the year off and be back at work? Surely, Jane may sign up for insurance since the disutility of a short walk does not outweigh the expected utility of having insurance. In addition, given the low stakes governing the conversation, Jane is justified in asserting to her friend that she will be back at her home institution the following year. These two intuitions pose a problem for PREMISE. If Jane is justified in taking it for granted that she will survive the year, then she should not sign up for insurance. However, since Jane may sign up for insurance, she is not justified and does not know. In contrast, Jane is justified in asserting that she will be back at work and if we accept the knowledge norm of assertion, then she thereby knows that she will survive the year and be back at work. So PREMISE appears to entail that there are cases in which the subject both knows and does not know that p.

DeRose’s example brings to light a question that has not received much attention in the debate about these principles. What is a practical context? And can a subject be in more than one practical context at the same time? If a subject can, then PREMISE will have unacceptable consequences.

I believe that the proponent of PREMISE can respond by first noting an ambiguity in the notion of a practical context. There are at least two relevant notions of a practical context. One way of being in a practical context is to be performing some action. Let’s call this an *intentional context*. Since Jane is walking to the college benefits office, she is in the practical context demarcated by that action. However, another way of being in a practical context is to be deciding what to do. Let’s call this a *deliberative context*. If Jane is deciding what to say to her friend, she is in the practical context demarcated by this deliberation. Having made this distinction, we must determine whether PREMISE applies to intentional contexts, deliberative contexts, or both. In order to answer this question, let us consider whether one can be in multiple intentional contexts and in multiple deliberative contexts.

We can clearly be in more than one intentional context at a given moment. I can be driving John to the airport and Sarah to her house. I can also be in one deliberative context while in another intentional context. This is presumably the situation that Jane finds herself in. While deciding what to tell her friend, Jane is also walking to the benefits office.

Can we be in more that one deliberative context at the same time? If we are loose about what it means to be “at the same time”, there are situations we would describe as being engaged in more than one deliberation at the same time. For example, suppose that we are deliberating about where to go on vacation when we are reminded that a friend will be stopping by for dinner. So we must, while choosing a vacation destination, also decide a restaurant to order from. Speaking loosely, we might say that we are, at the same time, deciding about where to eat and where to go on vacation. However, since we are simply switching from one deliberative context to another, then strictly speaking there is no single moment in time when we are engaged in both deliberations. More generally, if we think of a deliberative context as one in which we are consciously addressing a particular question, it does not seem possible to be in more than one deliberative context at exactly the same time. We are serial, not parallel, deliberators.[[20]](#footnote-20)

The hegemony of a subject’s current deliberative context offers a straightforward response to DeRose’s problem. If we interpret PREMISE as applying to reasoning in a deliberative context, then Jane is only in the practical context of deciding what to say. Therefore, while Jane is talking to her friend, she does in fact know that she will survive and be back at work the following year. It may be objected that by interpreting PREMISE in this way, we rob it of its the explanatory power. After all, we can evaluate Jane’s action of walking to the benefits office. I will address this worry in $§$2.

Baron Reed presents a similar objection. However, Reed does not consider a case in which the subject is in one intentional context and another deliberative context. Rather, Reed proposes a case where we are supposedly making two different decisions at the same time.

**Case #5: Simultaneous decisions** A researcher is asking you questions about Roman history, and you are in two punishment/reward scenarios. In the first scenario, if you answer correctly, then you receive a jelly bean and if you answer incorrectly, you get a very painful electric shock. In the second scenario, if you answer correctly, you receive $1000 and if you answer incorrectly, you get a very mild slap on the wrist. In both scenarios, nothing happens if you fail to answer.[[21]](#footnote-21)

Reed concludes the case by stating, ‘although you must consider both scenarios simultaneously, you are not bound to give the same answer in each.’[[22]](#footnote-22) I will interpret Reed as insisting that we are deciding at one and the same time which answer to give to both questions. Suppose that you are asked in both scenarios if Julius Caesar was born in 100 BC. Furthermore, let us suppose that we are quite confident but not certain that BORN [that Julius Easer was born in 100 BC]. Assuming that we are making both decisions at once, then the following decision matrix characterizes our decision problem in which *Yesi* refers to answering the i-th question in the affirmative and $¬$*Ai* refers to not answering the i-th question. For simplicity, we will not consider answering either question in the negative.

|  |  |  |
| --- | --- | --- |
|  |  **BORN**  |  $¬$**BORN** |
| *Yes1 & Yes2* | Jelly Bean, $1000 | Painful Shock, Wrist Slap |
| *Yes1 &* $¬$*A2* | Jelly Bean | Painful Shock |
| $¬$*A1 & Yes2* | $1000 | Wrist Slap |
| $¬$*A1 &* $¬$*A2* | Status Quo | Status Quo |

Table 1: Simultaneous Decisions

Intuitively, $¬$*A1 & Yes2* is the choice that maximizes expected utility. This choice is better than *Yes1 & Yes2* because it is not worth risking a small chance at a painful shock for a very good chance at a jelly bean. Thus, our confidence is not strong enough to take BORN for granted. If we did, *Yes1 & Yes2* would be the maximizing choice. So PREMISE does not entail that one both knows and does not know that BORN. Since we are in the deliberative context described in Table 1, PREMISE simply entails that we do not know that BORN.

## 2 THE PRACTICAL ROLE OF KNOWLEDGE

The main lesson of my discussion is that the current debate about PREMISE lacks precision about the scope and nature of these principles. I hope to have shown that an adequate evaluation requires that we specify the type of activity that these principles govern. My interpretation and defense of PREMISE relied upon two claims about the practical role of knowledge. First, knowledge plays a normative role in governing deductive reasoning. Second, the relevant activity is our reasoning within a deliberative context. In hopes of articulating in more detail what my preferred interpretation of PREMISE says about the practical role of knowledge, I shall respond to an objection to each of these two claims about the practical role of knowledge.

### 2.1 The evaluation of deliberation vs action

I argued that we should restrict the scope of PREMISE to deliberative contexts. As a result, PREMISE is a principle that is primarily used in the evaluation of reasoning rather than the evaluations of actions. To my knowledge, this distinction has played little to no role in the debate about the practical role of knowledge.[[23]](#footnote-23) However, in order to avoid the problems raised by DeRose’s and Reed’s examples, I have suggested that we should interpret the practical role of knowledge primarily in terms of its role within deliberative contexts. Given this focus on reasoning, it may be objected that once we make this restriction, we lose the import of these principles. After all, we can clearly evaluate Jane’s action of walking to the benefits office just as we can evaluate her decision to inform her friend.

Fortunately, this objection misses the mark. By restricting these principles to deliberative contexts, I am proposing that when we evaluate Jane’s actions using PREMISE, we do so by evaluating features of Jane’s deliberative context. When applying PREMISE, the evaluation of action is derivative of our evaluation of practical reasoning. Hawthorne and Stanley make a similar assumption when they write, ‘in many cases in which we use ‘know’ in the appraisal of action, someone acts upon some practical reasoning she employs, and is thereby subject to criticism.’[[24]](#footnote-24) These remarks suggest that actions are evaluable in virtue of the reasoning on the basis of which the subject could have formed the relevant intention. Thus, this restriction is not mean to impose any problematic limits on the objects of our evaluation when we use PREMISE. It simply identifies what is primary and what is secondary in the evaluative use of PREMISE.

It may be objected that our practical situation would be quite different if we consider what would have happened had we deliberated. If Jane only had a split second to act, then engaging in any deliberation at all would be a mistake. Therefore, we would alter the practical situation if we evaluate actions based upon what would have happened had the agent deliberated. However, this objection misrepresents what it means to evaluate Jane’s deliberative context. We should not evaluate what would have happened if Jane took the time to reason. Rather, we are to evaluate the strength of Jane’s epistemic position with respect to various instances of reasoning. PREMISE specifies when one possesses sufficiently strong propositional justification. Thus PREMISE is only relevant for evaluating whether or not Jane is in a strong enough epistemic position to reason in a certain way. We do not care about the complexities of her real life situation. We do not care whether it would be good or bad for Jane to engage in conscious deliberation.

To further the argument that PREMISE concerns reasoning, I will show in the next section that the principles connecting knowledge and reasoning are naturally viewed as norms of justification rather than norms of correctness.

### 2.2 Norms of justification vs correctness

The next objection comes from a worry about the significance of knowledge. Principles connecting knowledge to reasoning and action are of interest because they help to characterize the practical role of knowledge. PREMISE together with a principle like INFERENCE connect knowledge to the practical through the identification of a sufficient condition for when one is justified in employing an argument to the conclusion that one may $ϕ$. However, there are prominent theories of rational action such as subjective expected utility theory, which make no appeal to knowledge and propose both sufficient and necessary conditions for when one may $ϕ$.[[25]](#footnote-25) If these theories are satisfactory, then this would suggest that knowledge plays no distinctive practical role. Reed writes, ‘surely, knowledge is supposed to be useful in deciding what to do. Once we allow the pragmatic to encroach on the epistemic though, knowledge becomes nothing more than an empty designation, coming along only after the dust as settled.’[[26]](#footnote-26) The worry is that if knowing depends on what we may do, then since we can identify what we may do independently of what we know, then the concept of knowledge has no distinctive theoretical significance. So my view of PREMISE seems to eliminate any distinctive practical significance that knowledge might have had.

To conclude our discussion, I will show that PREMISE can be viewed as a norm of justification that governs belief-based deductive reasoning. Furthermore, I will argue that these norms are distinct from the ones proposed by subjective expected utility theory. Before we do so, let us reconsider the theoretical basis for PREMISE.

PREMISE and INFERENCE together entail that being in a position to deduce that one may $ϕ$ from what one knows entails that one is in a position to know that one may $ϕ$. And these principles are best understood as articulating norms of justification that govern reasoning.

The norms supplied by subjective expected utility theory differ from PREMISE along two dimensions. First, they are best understood as specifying norms of correctness. Second, they are norms that govern our choices or actions rather than our reasoning. The principle of maximizing subjective expected utility is typically interpreted as identifying necessary and sufficient conditions for when S may $ϕ$. Pettit offers the useful distinction between interpreting decision theory as a canon versus a calculus of rational choice.[[27]](#footnote-27) Decision theory is typically interpreted as a canon, which supplies norms of correctness for choice. We do not think that decision makers must actually calculate expected utilities to act appropriately. Thus, we have the following norm.

**CORRECT ACTION:** $ϕ$-ing is correct iff $ϕ$-ing maximizes expected utility.

Norms of correctness differ from norms of justification. The paradigmatic example of this distinction comes from the norms governing belief. Some have proposed that belief aims at truth in the sense that a belief is correct if and only if the belief is true.[[28]](#footnote-28) While truth is a plausible norm of correctness for belief, this does not entail that a belief is justified if and only if it is true.

To complete our characterization of PREMISE, let us consider in some detail the type of reasoning that PREMISE governs. The type of reasoning I have in mind has two features. The first is that the reasoning is coarse-grained and is grounded in the truth or falsity of propositions rather than more fine-grained judgments of likelihood or confidence. Call this *belief-based reasoning*. The second is that the reasoning is deductive. I shall briefly discuss each in turn.

Belief-based reasoning has been discussed under many different descriptions and labels. One way of labeling this type of activity comes from the decision-theoretic distinction between decision-making under certainty, risk, and uncertainty.[[29]](#footnote-29) Philosophers often misunderstand what it means to engage in decision-making under certainty. It is erroneously thought that this type of decision making happens when one is certain with probability 1. However, when accurately understood, decision making under certainty is a type of decision making that relies upon what one knows or believes.[[30]](#footnote-30) And when reasoning on the basis of these all-or-nothing attitudes, one is simply reasoning on the basis of the truth or falsity of propositions without taking into account any uncertainties.

While my discussion relies only on the descriptive fact that we do engage in belief-based reasoning, there are many reasons why we may be justified in doing so. First, we are bounded creatures with limited resources. Since belief-based reasoning is a simplified form of reasoning, it may be justified on the basis of economic reasons. There may also be more substantial reasons to engage in belief-based reasoning. Richmond Thomason notes that because of design considerations, computer science researchers often build agents who engage in belief-based reasoning.[[31]](#footnote-31) Thomason has also argued that one of the reasons why belief-based reasoning is necessary is that the formation of certain intentions require the appropriate belief-based reasoning and would not be possible on the basis of probability-based reasoning.[[32]](#footnote-32) Next, the relevant type of reasoning is deductive. And since we do engage in deductive reasoning, we need some account of when such reasoning is correct and justified.

The following is a plausible norm of correctness for deductive reasoning.

**CORRECT REASONING:** An instance of deductive reasoning is correct if and only if the reasoning is sound.

 CORRECT ACTION and CORRECT REASONING are distinct norms of correctness but there is a simple connection between the two norms. If the conclusion of one’s deductive reasoning is that one is permitted to $ϕ$, then that reasoning is sound only if one is permitted to $ϕ$. And the proposition that one is permitted to $ϕ$ is true if and only if $ϕ$-ing maximizes expected utility.

While the debate about the practical role of knowledge has primarily focused on action, reasoning is just as important to the practical lives of human agents. Human beings and other bounded agents care about reasoning because reasoning is an activity that bounded rational agents engage in when they are deliberating about what to do or believe. In contrast, omniscient agents need not deliberate. So the norms that govern deliberative activities are central to our lives as bounded agents.

Now that I have distinguished the norm of correctness for reasoning from the norm of correctness for action, we should consider norms of justification for reasoning. It would go beyond the scope of this paper to develop, from the ground up, a theory of the norms of justification for reasoning, and then show that this theory entails PREMISE. Instead, I want to conclude our discussion by simply observing how natural and intuitive it is to view PREMISE as a norm of justification for reasoning rather than a norm of correctness. I think one way of doing this is to show how one might attempt to argue for PREMISE on the basis of CORRECT REASONING. To show this, I want to assume, just for the sake of discussion, the following linking principle between norms of correctness and justification.[[33]](#footnote-33)

**LINKING PRINCIPLE:** If one has justification to believe that it is correct to $ϕ$, then one has justification to $ϕ$.[[34]](#footnote-34)

 By substituting correct reasoning into the linking principle, we can derive the following:

**JUSTIFIED REASONING:** If one has justification to believe that an instance of deductive reasoning is sound, then one has justification to employ that instance of deductive reasoning.

Assuming that we can split up the act of employing an instance of deductive reasoning into the employment of premises and the inference from premises to conclusion, then we can derive two separate claims. First, we can derive, using JUSTIFIED REASONING, that if one knows that the premises are true, then one has justification to employ the premises in deductive reasoning. Second, we can also derive that if one knows that a set of premises entails a conclusion, then one has justification to employ an inference from premises to conclusion. Thus, one straightforward argument in favor of PREMISE (and INFERENCE) is that it follows from simple and plausible norms governing deductive reasoning. PREMISE along with INFERENCE respectively identify sufficient conditions for being justified in employing premises and deductive inferences in reasoning under certainty.

To be clear, I am not claiming that the role of PREMISE is wholly restricted to cases of decision making under certainty. Rather, given the scope of my discussion, my aim has been simply to show how we can argue for PREMISE from fairly simple principles governing deductive, belief-based reasoning.

In summary, knowledge plays a clear role in the norms of justification that govern deductive reasoning. This role is exemplified by PREMISE, which I have argued is a norm of justification governing when a subject is justified in using a premise in deductive reasoning. It iss worth noting that I believe that knowledge can play a wider practical role by playing a role in the norms of justification governing other types of reasoning. For example, I think the best interpretation of the knowledge-reason norm is as a norm that governs defeasible reasoning. So the broader lesson of my discussion is that in order to evaluate the principles that connect knowledge to the practical, we must be much clearer as to what activity each norm governs. By focusing on deductive reasoning, we can see what is required in order to provide a full characterization and defense of principles such as PREMISE.

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1. PREMISE is closest to the formulation in Brown (2008b) in that it appeals explicitly to reasoning rather than action. My reasons for preferring this formulation are laid out in $§$2. [↑](#footnote-ref-1)
2. See Kim (2017) for an overview of the role these principles play in debates about pragmatic encroachment. [↑](#footnote-ref-2)
3. See (Fantl & McGrath, 2009). [↑](#footnote-ref-3)
4. See (Brown 2008a; Brown 2008b; DeRose 2009; Reed 2010; Roeber 2018). [↑](#footnote-ref-4)
5. My debate with the critics of PREMISE is not a straightforward one. Rather, I hope to show that the debate surrounding PREMISE has lacked clarity about the nature and scope of these principles. And only once we precisify PREMISE are we truly able to evaluate the principle. I thank an anonymous reviewer for helping me clarify my debate with the critics of PREMISE. [↑](#footnote-ref-5)
6. Brown (2008b), pp. 176-177 [↑](#footnote-ref-6)
7. Ichikawa (2012) [↑](#footnote-ref-7)
8. Ichikawa (2012), p.52 [↑](#footnote-ref-8)
9. Brown (2008b), p.177 [↑](#footnote-ref-9)
10. *Ibid*, p.177 [↑](#footnote-ref-10)
11. In fact, if we pair PREMISE with a much weaker principle than INFERENCE, then it is not hard to think of counter-examples. For example, suppose one embraces INFERENCE\*, which states that if a set of premises *P* entails that *q*, then you are justified in making an inference from *P* to *q*. Since the sufficient condition is very weak, there seem to be clear cases where the subject should not make the inference even though it is a valid one. So PREMISE and INFERENCE\* would entail that the subject may do something that he or she clearly should not. [↑](#footnote-ref-11)
12. This example is taken from Brown (2008b). [↑](#footnote-ref-12)
13. An alternative is to argue that in all such gambling scenarios Liz never knows (5) but I cannot think of a plausible account of rational choice that would entail this [↑](#footnote-ref-13)
14. Many find it strange that being in this situation would deprive Liz of her ordinary knowledge. This problem (and similar ones such as the now you know it, now you don’t problem) is beyond the scope of this paper. I have discussed them more thoroughly in Kim (2016). [↑](#footnote-ref-14)
15. For example, consider the Reason-Knowledge principle in (Hawthorne & Stanley 2008), which states that where one’s choice is p-dependent, it is appropriate to treat the proposition that p as a reason for acting iff you know that p. While the principle tells you when you can treat a proposition as a reason, it does not tell you the conditions under which such reasons rationalize a choice or action. [↑](#footnote-ref-15)
16. This case is taken from Neta (2012). [↑](#footnote-ref-16)
17. See (Fantl & McGrath, 2009), pp. 202-208. [↑](#footnote-ref-17)
18. There are cases where one possesses the same evidential grounds for believing p and q, yet may not believe that p if and only q because one believes that either p or q must be false. This is generally the case when p and q are distinct members of a mutually exhaustive and exclusive set of hypotheses. [↑](#footnote-ref-18)
19. This example is found in DeRose (2009), pp 269-72. [↑](#footnote-ref-19)
20. While this claim is a conjecture, I have admittedly been a bit ambiguous about the nature of the conjecture. If we limit what we mean by deliberation to conscious deliberation, then there is a simple phenomenological argument to the conclusion that we are serial deliberators. After all, we only experience a single stream of consciousness. However, if we want to associate deliberation with certain types of psychological processes (e.g. type-2 processes), then the conjecture is an empirical one and can be falsified. Since this discussion would go beyond the scope of this paper, I will simply note here that some psychologists do think that type-2 processing is serial. See Stanovich (2009). [↑](#footnote-ref-20)
21. Reed (2010), p.230 [↑](#footnote-ref-21)
22. *Ibid,* p.230 [↑](#footnote-ref-22)
23. In his 2004 book, Hawthorne considers the following principle connecting knowledge and practical reasoning: ‘one ought only to use that which one knows as a premise in one’s deliberation.’ Hawthorne (2004), p.30. However, in his 2008 paper with Jason Stanley, they defend a principle connecting knowledge and action which states that ‘where one’s choice is p-dependent, it is appropriate to treat the proposition that p as a reason for acting iff you know that p.’ (Hawthorne & Stanley, 2008), p.578 Since the paper makes no indication that there had been a shift in perspective, the implication is that it does not make a difference which perspective one takes. [↑](#footnote-ref-23)
24. (Hawthorne & Stanley, 2008), p.377 [↑](#footnote-ref-24)
25. I disagree with this characterization of subjective expected utility theory but I’m happy to adopt the view for the sake of the argument. [↑](#footnote-ref-25)
26. Reed (2012), pp.470-471 [↑](#footnote-ref-26)
27. Petit (1994) [↑](#footnote-ref-27)
28. For one example, see Engel (2013). [↑](#footnote-ref-28)
29. (Luce & Raiffa, 1957) [↑](#footnote-ref-29)
30. (Luce & Raiffa, 1957), p.13 do not use the language of subjective certainty to characterize decision-making under certainty. Instead, they use the language of knowledge. [↑](#footnote-ref-30)
31. See Thomason (2014) for the most recent discussion. [↑](#footnote-ref-31)
32. Thomason (2014), pp. 172-173 presents a case where the decision maker is deciding to call a bet or fold in a poker game where he has a $1000 stake. The utility of calling the bet if his opponent doesn’t have a pair of kings is $1750. And the utility of calling the bet if his opponent does have a pair of kinds is $750. Suppose the decision maker calculates the expected utility of the two choices and decides to call because its expected utility is greater than that of folding. Now suppose instead that the decision maker thinks that the likelihood of his opponent having a pairs of kings is very low and forms the belief that she is bluffing. On the basis of these reasons, he calls the bet because it will net him $750. Thomason observes that in the case where the decision maker calculated expected utilities, it would be wrong to say he intended to win $750. Only if the decision maker engaged in the belief-based reasoning would be appropriate to say that he has this intention. [↑](#footnote-ref-32)
33. Smithies argues for a bi-conditional but for our derivation, we only need the following conditional. [↑](#footnote-ref-33)
34. Smithies (2012), p.19 [↑](#footnote-ref-34)