

Knowledge and Action: What Depends on What?*

Itamar Weinshtock Saadon

Rutgers University

Abstract

Some philosophers think that knowledge or justification is both necessary and sufficient for rational action: they endorse knowledge-action or justification-action biconditionals. This paper offers a novel, metaphysical challenge to these biconditionals, which proceeds with a familiar question: What depends on what? If you know that p iff it is rational for you to act on p , do you know that p partly because it is rational for you to act on p , or is it rational for you to act on p partly because you know that p ? And a structurally similar question can be asked regarding justification-action biconditionals. I argue that proponents of these biconditionals cannot give a satisfactory answer to these questions. This is because each direction of these biconditionals strongly supports an opposite order of explanation to the one that is supported by the other direction. Given the traditional assumption that metaphysical explanations—even partial ones—are asymmetric, I argue that these biconditionals should be rejected. While knowledge might be necessary for rational action, and it might be sufficient, it cannot be both. And the same goes for justification.

There seems to be a tight connection between the epistemic status of our beliefs—whether they are rational, justified, or amount to knowledge—and the rationality of acting on those beliefs. If you know or are justified in believing that it will rain, then it is rational for you to carry an umbrella. And if you don't know or are unjustified in believing that the bridge is stable, it isn't rational for you to cross it. In light of these intuitive connections, some philosophers have argued that knowledge or justification is necessary for rational action: It is rational for you to act on p only if you are justified

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in believing that p or perhaps only if you know that p .¹ And some have argued that knowledge or justification is sufficient for rational action: If you know or are even justified in believing that p , then it is rational for you to act on p .² Finally, some have further argued that knowledge or justification is both necessary and sufficient for rational action: they endorse knowledge-action or justification-action biconditionals. Hawthorne (2004: 30), Stanley (2005: 11, 2007: 202), and Hawthorne and Stanley (2008) argue for a knowledge-action biconditional: “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 ” (578).³ And Fantl and McGrath (2009) argue for a justification-action biconditional: “You are justified in believing p iff p is warranted enough to justify you in ϕ -ing, for any ϕ ” (123).

In this paper, I argue against all such biconditionals. Unlike others, my argumentative strategy will not proceed by offering counterexamples to one or both directions of these biconditionals;⁴ nor will I argue that one or both directions of these biconditionals violate standard Bayesian decision theory.⁵ Rather, I will argue that these biconditionals suffer from an internal tension: If you accept that knowledge or justification is necessary for rational action, you shouldn’t accept that it is also sufficient, and vice versa. Thus, knowledge might be necessary for rational action, and it might be sufficient, but it cannot be both. And the same goes for justification.

My argument against these biconditionals is a metaphysical one. It begins with a simple, familiar question: What depends on what? If you know that p iff it is rational for you to act on p , do you know that p partly because it is rational for you to act on p , or is it rational for you to act on p partly because you know that p ? And a structurally similar question can be asked regarding justification-action biconditionals. I argue that proponents of these biconditionals cannot give a satisfactory answer to these questions. This is because each direction of these biconditional strongly supports an opposite order of explanation to the one that is supported by the other direction. Given the traditional assumption that metaphysical explanations—even partial ones—are asymmetric, I argue that these biconditionals should be rejected.

¹For knowledge being necessary for rational action, see, e.g., Unger (1975: 200–1), Nissan-Rozen (2017), Williamson (2017a: 177), and Mueller (2021); for justification, see, e.g., Fumerton (2010), Gerken (2011), and Comesaña (2020: ch. 4).

²For justification (and knowledge) being sufficient for rational action, see e.g., Fantl and McGrath (2002).

³Hyman (1999: 441) and Williamson (2005: 231) suggest similar biconditionals. There are subtle differences between Hawthorne’s (2004), Stanley’s (2005, 2007), and Hawthorne and Stanley’s (2008) formulations of the biconditional; these differences won’t matter here.

⁴Purported counterexamples to one or both directions of these biconditionals have been offered, e.g., by Brown (2008a, 2008b, 2012), Neta (2007, 2009, 2012), Littlejohn (2009), Lackey (2010), Reed (2010, 2012), Smithies (2012), Anderson (2015), Locke (2015), Gao (2017), Roeber (2018), and Beddor (2020).

⁵For such complaints, see, e.g., Schiffer (2007) and Douven (2008); for discussion, see Weisberg (2013).

Here's the plan. §1 introduces Hawthorne and Stanley's and Fantl and McGrath's biconditionals. §2 clarifies the challenge and the metaphysical assumptions underlying it. §3 argues that accepting that knowledge/justification is necessary for rational action commits one to taking the former as explanatorily prior to the latter, whereas §§4–6 argue that accepting the other direction commits one to reversing said order of explanation. §7 concludes.

1 Knowledge/Justification-Action Biconditionals

Some philosophers have argued for biconditionals connecting knowledge or justification and rational action. Hawthorne and Stanley (2008: 578) argue for a knowledge-action biconditional:

Knowledge-Reason Biconditional (KRB): Where one's choice is p -dependent, you know that p iff it is appropriate to treat the proposition that p as a reason for acting.

And Fantl and McGrath (2009: 123) argue for a justification-action biconditional:

Justification-Reason Biconditional (JRB): You are justified in believing p iff p is warranted enough to justify you in ϕ -ing, for any ϕ .⁶

Let's unpack these principles while noting several differences between them. First, while both principles concern the relationship between knowledge/justification and reasons, KRB is explicitly about reasons *for action*, whereas JRB concerns reasons *for any ϕ* —including, for example, reasons for “believing, doing, feeling, wanting, liking, hating, or intending anything at all” (Fantl and McGrath 2009: 66). Since I focus only on these biconditionals' implications regarding rational action, we can set this difference aside. Second, Hawthorne and Stanley are explicit that their principle should take a *permissive* reading: knowing that p is both necessary and sufficient for the *permissibility* of treating p as a reason for acting (2008: 578). Fantl and McGrath, however, are sympathetic to an *obligatory* reading of JRB according to which you are justified in believing that p iff p is warranted enough to make it the case that you *should* ϕ (2009: 89–92, 127). For simplicity, I'll assume the permitting reading of both principles in what follows.

Finally, note the ‘where one's choice is p -dependent’ clause in KRB. The idea behind it is that when p is irrelevant to one's choice of action, treating p as a reason

⁶For Fantl and McGrath, ‘being justified in believing’ is equivalent to having *knowledge-level* justification for believing, i.e., having justification that is strong enough such that no shortcomings in the strength of your *justification* stand in the way of your knowing (2009: 98). I'll continue talking about being justified in believing *simpliciter*, but nothing hangs on that.

for acting would be inappropriate even if one knows that p . (This restriction is needed only to the left-to-right direction of KRB.) This clause, however, is unnecessary in JRB. By ' p is warranted enough to justify you in ϕ -ing' Fantl and McGrath mean that *no weaknesses in your epistemic position vis-à-vis p stand in the way of justifying you in ϕ -ing*. So the left-to-right direction of JRB doesn't entail, for example, that if I am justified in believing that I am running out of coffee, then this proposition justifies me in buying AMAZON shares. Rather, it entails that no weaknesses in my epistemic position vis-à-vis the proposition *that I am running out of coffee* stand in the way of justifying me in buying AMAZON shares—while other things, such as relevancy, do. So there is no substantive disagreement between KRB and JRB on that score.

For simplicity, let's reformulate KRB and JRB using a unified terminology. I shall treat KRB and JRB as different ways of fleshing out the idea that knowing that p or being justified in believing that p is both necessary and sufficient for the rational permissibility of ignoring any possibility in which p is false, assuming it is true, and acting on it. As Fantl and McGrath put it (when discussing a version of the left-to-right direction of KRB), "If you know something, you can *take it for granted, assume it's true, count on it, take it to the bank, and book it*" (2012: 441, their italics). And let's reformulate KRB and JRB, respectively, as follows:

Knowledge-Action Biconditional (KAB): (Where p is practically relevant)
you know that p iff it is rational for you to act on p .

Justification-Action Biconditional (JAB): (Where p is practically relevant)
you are justified in believing that p iff it is rational for you to act on p .

A few last remarks before jumping ahead. First, since I focus only on practically relevant propositions, I'll omit the 'where p is practically relevant' clause in what follows. Second, to streamline the discussion, from now on I'll focus on KAB, but everything I say applies *mutatis mutandis* to JAB (I'll say more in footnotes where this might not be obvious). Finally, I'll refer to the right-to-left direction of KAB as K-NEC, and to the left-to-right direction of KAB as K-SUFF. That is,

K-NEC: It is rational for you to act on p only if you know that p .

K-SUFF: If you know that p , then it is rational for you to act on p .

In what follows, then, I'll argue that K-NEC and K-SUFF are in tension with one another: if you accept K-NEC, you should reject K-SUFF, and vice versa.

2 The Euthyphro Challenge

Biconditionals such as KAB naturally invite a familiar question: What depends on what? If you know that p iff it is rational for you to act on p , do you know that p partly because it is rational for you to act on p , or is it rational for you to act on p partly because you know that p ? Call this the *Euthyphro Challenge*.

Some clarifications regarding the challenge are in order. First, the relevant notion of ‘because’ in the Euthyphro Challenge is *metaphysical*: it picks up a metaphysical, non-causal explanatory relation. Roughly, metaphysical explanations are answers to what-makes-it-the-case-that questions. A related notion is the notion of *grounding*, a relation of metaphysical dependence or the in-virtue-of relation.⁷ Grounding theorists typically hold that when some x grounds y , x *metaphysically explains* y .⁸ It is also traditionally assumed that grounding—even partial grounding—is irreflexive, asymmetric, and transitive.⁹ Second, note my use of ‘partly because’ rather than ‘because.’ This is in order to emphasize that the explanation need not be full. ‘A partly because B ’ is true whenever the fact that B holds is at least one of the facts in virtue of which the fact that A holds, or at least one of the facts that explain why A holds. (Here and throughout, ‘partly because’ means *at least* partly because. So ‘A fully because B ’ entails ‘A partly because B ’.)

Lastly, the Euthyphro Challenge, like the one in the Platonic dialogue that inspires it, presupposes that only one of the disjuncts in the question can be true: either you know that p partly because it’s rational for you to act on p , or it’s rational for you to act on p partly because you know that p , but not both. It assumes, in other words, that metaphysical explanatory relations, even partial ones, are asymmetric. Let’s call this principle:

The Euthyphro Principle: For all facts A and B , if A partly because B , then it’s not the case that B partly because A .¹⁰

Restricted only to cases in which the relevant explanatory relation is (or is backed

⁷See, e.g., Schaffer (2009), Rosen (2010), Correia and Schneider (2012), Fine (2012), and Bennett (2017).

⁸Some think that grounding *just is* a kind of metaphysical explanation (Dasgupta 2014, Raven 2012); others think of grounding not as a kind of metaphysical explanation, but rather as a determination relation that *backs* such explanations (Audi 2012, Schaffer 2012, Trogdon 2013). This controversy won’t matter here.

⁹See the authors mentioned in footnote 7. As with everything, this isn’t uncontroversial. For some unorthodox discussion, see, e.g., Schaffer (2012) on transitivity, Wilson (2014) on irreflexivity, and Barnes (2018) on asymmetry; Litland (2013) and Raven (2013) defend the orthodoxy.

¹⁰See, e.g., Correia and Schneider (2012) and Schneider (2015). The label ‘The Euthyphro Principle’ is borrowed from Luzon (2024: 225). Luzon argues that the Euthyphro Principle holds even when the two ‘partly because’ are backed by different determination relations, such as grounding and causation. Here I’m using a weaker version of the Euthyphro Principle, restricted only to cases in which the explanatory relation in both directions is backed by the same determination relation, and specifically grounding.

by) grounding, the Euthyphro Principle follows from the traditional assumption that grounding—even partial grounding—is asymmetric. And this is how this principle should be understood in what follows.¹¹

In thinking about the Euthyphro Challenge, it will be useful to have in mind a concrete example. Consider the following pair of cases:¹²

LOW: Hannah is driving home on Friday afternoon. She plans to stop at the bank to deposit her paycheck, but she notices long lines inside as she approaches the bank. Since she remembers she stopped at the bank two weeks ago on Saturday, and it was open, she considers driving straight home and depositing the check Saturday morning. Hannah also knows that it does not matter much when she deposits the check. In fact, the bank will be open tomorrow.

HIGH: Same as LOW, except that Hannah knows she will incur an enormous fine if she doesn't deposit her check before noon on Saturday.

Stanley (2005), Hawthorne and Stanley (2008), Fantl and McGrath (2002, 2007, 2009), and many others hold that Hannah-LOW knows that the bank will be open tomorrow (hereafter, TOMORROW), whereas Hannah-HIGH doesn't. It is also highly plausible that while it's rational for Hannah-LOW to act on TOMORROW (i.e., it's rational for her to delay depositing based on TOMORROW), it's not rational for Hannah-HIGH to do so.

Now, KAB entails that Hannah knows TOMORROW iff it's rational for her to act on TOMORROW. Equivalently, Hannah doesn't know TOMORROW iff it's *not* rational for her to act on TOMORROW. Let's consider the Euthyphro Challenge applied to HIGH:

Euthyphro Challenge High: Either (a) it's not rational for Hannah-HIGH to act on TOMORROW partly because she doesn't know TOMORROW, or (b) Hannah-HIGH doesn't know TOMORROW partly because it's not rational for her to act on TOMORROW.

The Euthyphro Principle thus entails that (a) and (b) cannot both be true. Note, however, that merely committing to KAB does not necessarily commit one to choosing either (a) or (b). For there is a way for proponents of KAB to resist the challenge that is consistent with the Euthyphro Principle: by denying both (a) and (b).

Let [*p*] stand for *the fact that p*.¹³ A proponent of KAB might suggest that while [Hannah-HIGH doesn't know TOMORROW] and [it's not rational for Hannah-HIGH

¹¹Some grounding theorists distinguish between *metaphysical* and *normative* grounding (Fine 2012, Bader 2017). These theorists also accept that normative grounding shares the same logical properties as metaphysical grounding. Moreover, as Berker (2018: 749–760) shows, asymmetry and transitivity also plausibly hold for mixed cases of metaphysical and normative grounding. I'll continue talking only about metaphysical grounding, but nothing hangs on that.

¹²Adopted from Stanley (2005: 3–4); originally from DeRose (1992: 913).

¹³For ease of expression, here and throughout, 'explains' and its various forms mean *at least partly* explains, and 'doesn't explain' and its various forms mean doesn't *even partly* explain.

to act on TOMORROW] are strongly, perhaps *necessarily* correlated, neither of them explains the other. One may suggest, for example, that while neither fact explains the other, they are both explained by a third factor that explains their correlation. For instance, perhaps [Hannah-HIGH will incur an enormous fine if she doesn't deposit her check by tomorrow] explains both [Hannah-HIGH doesn't know TOMORROW] and [it's not rational for Hannah-HIGH to act on TOMORROW], without these two facts (even partly) explaining one another. If something along these lines is correct, then a KAB advocate may argue that Euthyphro Challenge High fails since it involves a false presupposition; it fails because both (a) and (b) are false.

My response to this suggestion will become clear in the next sections, where I'll argue that KAB strongly suggests that there *are* explanatory relations between these facts. Specifically, I'll argue (in §3) that accepting K-NEC commits one to accepting that [Hannah-HIGH doesn't know TOMORROW] partly explains [it's not rational for Hannah-HIGH to act on TOMORROW]. And I'll argue (in §§4–6) that accepting K-SUFF commits one to accepting that [it's not rational for Hannah-HIGH to act on TOMORROW] partly explains [Hannah-HIGH doesn't know TOMORROW]. Given the Euthyphro Principle, we should reject KAB.

3 From K-NEC to K-NEC*

According to K-NEC, it is rational for you to act on p only if you know that p . If one accepts K-NEC, I argue in this section, then there is serious pressure to accept a stronger, explanatory version of K-NEC:

K-NEC*: It is rational for you to act on p only if *and partly because* you know that p .

K-NEC* entails that when it's rational for you to act on p , this is *partly because* you know that p . Conversely, when you don't know that p , K-NEC* entails that it's not rational for you to act on p *partly because* you don't know that p .¹⁴ Thus, if (as proponents of KAB typically hold) Hannah-HIGH doesn't know TOMORROW, then K-NEC* entails that it's not rational for her to act on TOMORROW *partly because* she doesn't know TOMORROW.

¹⁴Indeed, K-NEC* plausibly entails that when you don't know that p , it's not rational for you to act on p *fully* because you don't know that p . Note that grounds—even full grounds—can be overdetermined. For example, $A \vee B$ is fully grounded in A , and it is also fully grounded in B (e.g., Rosen 2010: 117). So even when the fact that it's not rational for you to act on p is fully grounded in facts unrelated to your lack of knowledge that p (e.g., facts about your utility function), it can also be fully grounded in your lack of knowledge that p . Nonetheless, the *partly because*-claim is sufficient for my purposes (and it is entailed by the *fully because*-claim).

The move from K-NEC to K-NEC*, I take it, seems very natural and straightforward. Besides its strong initial plausibility, I offer two further arguments in its favor. The first draws on theories of rational action more broadly. The second pertains to the specific motivations for accepting K-NEC.

3.1 *Epistemic Rationality Is Explanatorily Prior to Practical Rationality*

One general sort of consideration for thinking that K-NEC supports K-NEC* draws on a familiar picture of rational action.¹⁵ According to this picture, what it is rational for an agent to do depends on two components: a desire-like component and a belief-like component. According to standard decision theory, for example, what it is rational to do is determined by one's utility and credence functions. An action is rational, on this standard picture, just in case it maximizes expected utility, where the expected utility of an action is the sum of the utility of its possible outcomes, weighted by the probability of each outcome.

Now, many theorists hold that for an action to be rational, not just any credence function an agent may have will do. Specifically, these theorists hold that an action is rational just in case it maximizes expected utility relative to one's *rational* credence function rather than one's *actual* credence function.¹⁶ There can be more or less demanding views on what it is for a credence function to be rational—some take any internally coherent credence function as rational; others hold that there are additional credence-to-evidence standards a credence function must meet to count as rational; yet others add that there are restrictions on one's rational priors that must be met for a credence function to count as rational. On any of these views, what it is rational to believe—understood in more or less demanding terms—is taken as *explanatorily prior* to what it is rational to do; epistemic rationality, on this picture, is explanatorily prior to practical rationality.

What about knowledge, then? Of course, neither of these theories explicitly appeal to one's *knowledge*; they only appeal to rational restrictions on one's credence function, ones that do not explicitly cite one's knowledge. But once we add K-NEC into the mix, the most natural picture that arises is that what one knows is *explanatorily prior* to what it is rational to do; the most natural picture, in other words, is that K-NEC* is true.

There are different ways to fill in the details on where exactly knowledge enters this picture. Hawthorne (2004: 30), Stanley (2005: 10), and Hawthorne and Stanley (2008: 581–4), for example, suggest that what one knows restricts which probabilities

¹⁵For a recent discussion in a closely related context, see Skipper (2023).

¹⁶Some pose similar restrictions to one's utility function, but this won't matter here.

should figure in the probability function that is relevant for determining what it is rational to do. Specifically, the relevant probabilities are *epistemic probabilities*, where they take one's epistemic probability for p to be determined by the extent to which the total body of one's *knowledge* supports p .¹⁷ Alternatively, Moss (2013: 35, 2018: 181–4) suggests that features of one's credence function can *constitute knowledge*. Roughly, according to Moss's suggestion, an action is rational just in case it maximizes expected utility relative to *one's credence function that constitutes knowledge*. Finally, Weatherson (2012: 77–86) suggests that knowledge plays a role in structuring one's decision table: A subject should consider only those states which are compatible with her knowledge at any given time.

According to any of these versions of *Knowledge-Based Decision Theory* (KDT), then, knowledge plays a crucial role in determining what it is rational to do. Knowledge plays this role by either constraining the probabilities that should figure in the relevant probability function (Hawthorne and Stanley, Moss), by determining which states should be assigned a probability to begin with (Weatherson), or by some combination thereof. The crucial point is that on any of these views, what one knows is most naturally taken as *explanatorily prior* to what it is rational to do. Just as in standard decision theory, it would be extremely odd to think that what it is rational to do *determines* or *explains* one's credence function, assuming KDT, it wouldn't make sense to think that what it is rational to do *determines* or *explains* what one knows. So, accepting K-NEC leads to KDT, which is most naturally interpreted as committed to K-NEC*.¹⁸

None of this is conclusive, however. Crucially, the argument relies on what I take to be a standard assumption, namely, that an action is rational just in case *and because* it maximizes expected utility. If we think that maximizing expected utility should be relativized to one's *rational* credence function, this assumption gives the result that what it is rational to do is *determined* or *explained* by what it is

¹⁷See Schulz (2017) and Goldschmidt (forthcoming) for developments of this view. For critical discussions, see Comesaña (2020: ch. 4), Fassio and Gao (2021), and Dutant (forthcoming).

¹⁸The same holds for J-NEC (the thesis that it's rational for you to act on p only if you are justified in believing that p). J-NEC commits to *Justification-Based Decision Theory*, which takes justification to play a similar role to the role that knowledge plays in KDT in determining what it is rational to do: either by constraining which probabilities should figure in the relevant probability function (e.g., Fumerton 2010), by determining which states should be assigned a probability to begin with (e.g., Comesaña 2020: ch. 5), or by some combination thereof. And the exact same considerations apply here—on this view, what one is justified in believing is most naturally taken as explanatorily prior to what it is rational to do.

Another prominent motivation for J-NEC comes from the thought that 'the unjustified cannot justify,' a thought that (when restricted to the theoretical domain) lies at the heart of the epistemic regress problem. Applied to the practical domain, this thought states that not only do unjustified beliefs fail to justify other beliefs, but they also cannot justify *actions*—actions that are based on those beliefs cannot be made rational (see, e.g., Fantl and McGrath 2009: 111–5 and Comesaña 2020: 71–6). And it's hard to make sense of this thought if we don't think of justified beliefs as *explanatorily prior* to rational actions.

rational to believe. (And plugging in K-NEC gives the result that what it is rational to do is *determined* or *explained* by what one knows.) But this assumption can be questioned. While committing to the opposite order of explanation—saying that what it is rational to believe is *determined* or *explained* by what it is rational to do—seems highly implausible, one may still deny this standard assumption without such a commitment. For example, one may suggest that even though an action is rational just in case it maximizes expected utility relative to one’s rational credence function, the fact that one’s rational credence function is the way that it is doesn’t play any role in explaining why acting in one way or another would be (ir)rational. Perhaps there are simply *no* explanatory relations there—perhaps, for example, for an action to be rational *just is* for it to maximize expected utility relative to one’s rational credence function, without the latter playing any role in explaining the former. By extension, one may suggest (à la Moss, for example,) that for an action to be rational *just is* for it to maximize expected utility relative to one’s credence function that constitutes knowledge, without the latter playing any role in explaining the former. While I think such a view leaves much to be desired, I won’t spend time arguing against it here. Instead, I turn now to a further, more specific consideration for thinking that K-NEC supports K-NEC*.

3.2 *Motivating K-NEC: Explaining Irrational Actions*

Why believe in K-NEC? The main motivation for K-NEC stems from taking at face value our ordinary practice of citing knowledge—and lack thereof—in assessing practical reasoning. As Hawthorne and Stanley put it, “[O]ur ordinary folk appraisals of the behavior of others suggest that the concept of knowledge is intimately intertwined with the rationality of action” (2008: 571). Specifically, when someone acts on a proposition she doesn’t know, her lack of knowledge is often cited when criticizing her action. And the most natural explanation for this phenomenon seems to be that “one should act only upon what one knows” (Stanley 2005: 11); the most natural explanation, in other words, is that K-NEC is true. But these motivations, I’ll argue now, don’t only support K-NEC—they also support K-NEC*. So committing to K-NEC but not to K-NEC* is at best highly unmotivated.

Suppose someone decides not to buy health insurance anymore based on the assumption that he will not fall ill. If he excitedly tells his mother about his new, ingenious money-saving policy, Hawthorne and Stanley suggest, “His mother can berate him for not buying the insurance, by appealing to the fact that he does not know that he will not fall ill” (2008: 572). If the mother’s criticism makes sense, this is best explained by K-NEC. But this also seems to support K-NEC*. As Hawthorne

and Stanley note, it would be very natural for the mother to say, for example, “You shouldn’t have stopped buying the insurance *since* you didn’t know you wouldn’t fall ill.”¹⁹ Taken at face value, this suggests that he is criticizable precisely *because* he didn’t know—his lack of knowledge *explains* his criticizability.

Similarly, suppose you are offered a penny for a lottery ticket that costs a dollar, in a 10,000-ticket lottery with a \$5,000 prize. Intuitively, it seems inappropriate for you to sell your ticket for a penny based on the assumption that your lottery ticket will lose (hereafter, LOSE). Why is it inappropriate? Hawthorne (2004: 29–30, 171–4) and Hawthorne and Stanley (2008: 572) suggest that the most natural answer seems to be that it’s *because* you don’t know LOSE. If you’re asking for my opinion, for example, it would be very natural for me to say, “You shouldn’t sell the ticket *because* you don’t know it will lose.” Again: this, if correct, would support not only K-NEC but also K-NEC*—what *explains why* selling your ticket for a penny is inappropriate is that you don’t know LOSE.

It should not come as a surprise, then, that proponents of K-NEC have naturally taken these cases to support the claim that the lack of knowledge *explains* the inappropriateness of these actions. Stanley, for example, offers the following diagnosis of the bank case:

[I]n High Stakes, we think it is mistaken for Hannah to act on her belief that the bank will be open on Saturday, and wait until Saturday to go there. *The obvious reason why* Hannah should not wait until Saturday to go to the bank is that she does not know that the bank will be open. (2005: 11, emphasis added).

Thus, Stanley naturally takes the fact that Hannah-HIGH isn’t rational to wait to deposit for tomorrow as *explained by* the fact that she doesn’t know TOMORROW.²⁰ More generally, as Hawthorne and Stanley put it, “The most natural explanation for why one cannot act on these beliefs is that these beliefs are not knowledge” (2008: 572), and in a similar vein, Fantl and McGrath argue, “If it is a problem to act as if *p*, you can *explain why* by saying that you don’t know that *p*” (2002: 72, emphasis added).²¹ Given K-NEC, it’s extremely plausible to explain why such acts are problematic by appealing to the lack of knowledge. And this would be true only if whether it is rational for you to act on *p* partly depends on whether you know that *p*; in other

¹⁹Hawthorne and Stanley (2008: 571) use this sentence-form when discussing a different example, but the same applies here.

²⁰Indeed, Hawthorne and Stanley (2008: 576) explicitly endorse a metaphysical—or at least, asymmetrical—reading of this claim. See footnote 34.

²¹Though Fantl and McGrath (2002) don’t defend K-NEC, and they reject it in (2009: 100–5, 124–5).

words, only if K-NEC* is true.²²

To be sure, natural language uses of explanatory language should be taken with caution. Natural language is messy, and simply assuming that these uses of expressions such as ‘because’ or ‘explains why’ pick up *metaphysical* explanations—the ‘what-makes-it-the-case-that’ sort of explanations—may seem too quick. For example, explanatory language can also be used *epistemically* or *evidentially*.²³ If you ask me whether it’s cloudy right now, for instance, we can imagine a conversational setting in which my answer would be, “Well, it’s cloudy *because* it’s raining.” Similarly, if, while at the brain lab, a scientist is wondering whether my C-fibers are firing, we can imagine me responding to her by saying, “They are not firing *because* I feel no pain.” In such cases, it’s clear that these ‘because’-clauses don’t pick up metaphysical (or causal) explanations; those explanations, if at all, go in the other direction. Rather, they pick up *epistemic* or *evidential* explanations—roughly, the fact that it’s raining *is evidence that* it’s cloudy, and the absence of pain *is evidence that* C-fibers aren’t firing. So, motivating K-NEC* by relying on the observation that in the lottery case, for example, it would be very natural to say something like, “You shouldn’t sell your ticket *because* you don’t know it will lose,” may seem too quick.

But such worries are in fact irrelevant in our context. Notice how hard it is to make sense of an evidential reading of these perfectly natural utterances. An evidential reading of ‘You shouldn’t sell your ticket *because* you don’t know it will lose,’ for example, would mean something like ‘the fact that you don’t know that your ticket will lose *is evidence that* you shouldn’t sell your ticket.’ It’s admittedly hard to get into the state of mind of someone intending this reading. If the main motivation for K-NEC derives its force from the ambition to accommodate our ordinary practice of citing the lack of knowledge in explaining the inappropriateness of these actions, this better not be the only way of making sense of this practice.

Another source of resistance to the argument may be as follows. The worry is not that there is another, perhaps an evidential reading of these ‘because’-clauses. Rather, the worry is that it’s implausible to interpret these perfectly *ordinary* uses of ‘because’

²²A structurally similar argument can be offered concerning J-NEC. If we think one should act only on what one is justified in believing, then when someone acts on a proposition she isn’t justified in believing, it’s most natural to explain the problem with her action by citing her lack of justification. It should be noted, however, that J-NEC proponents don’t typically motivate their view by appealing to our *ordinary* practice of citing justification—and lack thereof—in assessing practical reasoning. (As Hawthorne and Stanley 2008: 572 note, this might be due to the fact that ‘know’ is a phrase of colloquial English, whereas ‘justified belief’ is a phrase from philosophy classrooms.) So these kinds of considerations—considerations pertaining to our *ordinary* practice—are perhaps less decisive in the case of J-NEC. See footnote 18 for other considerations—especially those pertaining to ‘the unjustified cannot justify’ thought.

²³For classical discussions of the evidential use of ‘because,’ see, e.g., Hempel (1965: 334–5) and Morreall (1979); for a more recent treatment, see Shaheen (2022).

as picking something as fancy as *metaphysical explanations*. It's one thing to take the fact that we tend to cite the lack of knowledge in these cases as a reason to think that knowledge is necessary for rational action; it's another thing to take the fact that we *naturally explain* the inappropriateness of these actions by citing the lack of knowledge as a reason to think that the lack of knowledge *metaphysically explains* the inappropriateness of these actions. Who knows what metaphysical explanations—let alone *grounding*—are?

But this objection, I think, rests on a misunderstanding. Metaphysical and grounding explanations are *ubiquitous*—in philosophy, as well as in ordinary life. If an 18-year-old asks the bartender, “Why is it illegal for me to buy alcohol?” a perfectly natural response would be, “It’s *because* you are 18, and the law here says you must be 21 to buy alcohol.” This explanation isn’t *causal*; it’s a *metaphysical, grounding* explanation—it explains what non-causally makes-it-the-case-that it’s illegal for her to buy alcohol.²⁴ Similarly, when I tell my parents, “You shouldn’t eat this salad *because* it’s very salty and you have high blood pressure,” I’m giving them a *reason why* they shouldn’t eat this salad; I provide an *explanation why* they shouldn’t eat it. This, again, isn’t a *causal* explanation; it’s a *metaphysical, grounding* explanation—it explains what non-causally makes-it-the-case-that they shouldn’t eat this salad.²⁵ The concept that grounding theorists are after isn’t a highly specialized, fancy theoretical concept; it’s one that we make use of all the time. To be sure, detailed, philosophical controversies over grounding *are* highly specialized, and it may be overly pretentious to assume that our ordinary practice of providing such explanations presupposes a concept so fine-grained. But this should not distract us from the crucial point: ordinary practitioners cite the lack of knowledge in explaining irrational actions, and this is best explained by their picking up an explanation of the sort that grounding theorists are concerned with.

This concludes my defense of what otherwise may seem to be obvious: if knowing *p* is necessary for rationally acting on *p*, then the former is explanatorily prior to the latter. Specifically, when you don’t know that *p*, your lack of knowledge explains why it’s irrational for you to act on *p*. While it isn’t logically inconsistent to accept K-NEC and deny K-NEC*, taking this position is highly unmotivated. In answering the Euthyphro Challenge, then, proponents of KAB seem to have an obvious way to go: knowledge is explanatorily prior to rational action.

²⁴See, e.g., Rosen (2017: 285–7).

²⁵See, e.g., Berker (2018: 743–6) and Fogal and Risberg (2023). Some may insist that this is an instance of *normative* rather than *metaphysical* grounding; this won’t matter for my purposes. See footnote 11.

4 From K-SUFF to Pragmatic Encroachment

Traditional epistemology has it that the epistemic status of our beliefs—whether they are rational, justified, or amount to knowledge—is solely determined by *truth-relevant* factors, i.e., by things like the evidence we possess, the reliability of our belief-forming processes, the counterfactual relations between our beliefs and their truth-values, etc. Pragmatic encroachment holds that this is not so. According to pragmatic encroachment, the epistemic status of our beliefs also partly depends on our practical interests. Regarding knowledge, encroachers hold the following thesis:

Knowledge-Depends-Stakes: Whether you know that p partly depends on the stakes for you in whether p .²⁶

Now, together with some very plausible assumptions, K-SUFF entails Knowledge-Depends-Stakes. The argument is familiar, so I'll be brief.²⁷ Take some ordinary proposition that you take yourself to know—e.g., that you had pancakes this morning (hereafter, PANCAKES). Suppose that at t_1 nothing of special importance hinges for you on PANCAKES. And suppose that at t_2 you are offered the following bet on PANCAKES: if you win, you get \$1; if you lose, your family will be executed. Here's the argument from K-SUFF to pragmatic encroachment:²⁸

- (1) At t_1 , you know PANCAKES.
- (2) At t_2 , it's not rational for you to act on PANCAKES.
- (3) K-SUFF: If you know that p , then it's rational for you to act on p .
- (4) So, at t_2 , you don't know PANCAKES. [From 2 and 3]
- (5) If stakes cannot affect knowledge, then if at t_2 you don't know PANCAKES, then at t_1 you don't know PANCAKES. [From the description of the case.]
- (6) So, if stakes cannot affect knowledge, then at t_1 you don't know PANCAKES. [From 4 and 5]
- (7) So, stakes can affect knowledge. [From 1 and 6]

In addition to K-SUFF, there are three premises in this argument: (1), (2), and (5). Premise (5) follows from the description of the case since the only thing that has

²⁶For this characterization of pragmatic encroachment, see, e.g., Fantl and McGrath (2002: 75, 2019: 258), Hawthorne (2004: 158), Stanley (2005: 106), Brown (2008b: 168), and Roeber (2018: 171).

²⁷Versions of this argument have been offered, *inter alia*, by Fantl and McGrath (2002: 80–5, 2007: 566–8, 2009: 84–8), Hawthorne (2004: 174–7), Stanley (2007: 202), Hawthorne and Stanley (2008: 587–8), and Weatherson (2012: 82–6).

²⁸The same argument can be run from J-SUFF (the thesis that if you are justified in believing that p , then it's rational for you to act on p) to pragmatic encroachment on epistemic justification.

changed between t_1 and t_2 is your stakes vis-à-vis PANCAKES.²⁹ Denying premise (1) amounts to embracing a severe form of skepticism. For almost every proposition p that we take ourselves to know, it's possible to come up with a sufficiently high stakes bet on p such that it wouldn't be rational for us to act on p and take it. So, given K-SUFF, denying knowledge even without such an actual bet forces us to conclude that we know almost nothing. And denying premise (2) commits one to saying that taking said bet would be rational, which is very hard to accept.³⁰

Accepting K-SUFF, then, commits one to holding that stakes can affect knowledge. This shouldn't come as a surprise, of course, as proponents of K-SUFF are typically pragmatic encroachers. In the next section, however, I'll argue that the most promising way to make sense of such a view, given principles like K-SUFF, is by accepting that whether you know that p partly depends on whether it's rational for you to act on p .

²⁹What strictly speaking follows from the description of the case is that, if stakes cannot affect knowledge, at t_1 you know PANCAKES iff at t_2 you know PANCAKES. And this entails (5). I'm assuming the time passed between t_1 and t_2 wasn't significant enough to affect your memory of PANCAKES, so there is no change between t_1 and t_2 in your evidence and thus (if stakes cannot affect knowledge) with the strength of your epistemic position vis-à-vis PANCAKES. The argument can also be run using two subjects who are, by stipulation, exact epistemic duplicates vis-à-vis PANCAKES, but where only one of them is offered the bet.

³⁰While Hawthorne (2004) and Stanley (2005) accept Knowledge-Depends-Stakes, and while in their (2008) they suggest Knowledge-Depends-Stakes as a way of avoiding the skeptical conclusions of K-SUFF, this isn't the only strategy they mention. Another strategy is to reject the assumption that subjects in high-stakes situations ought not to act on the relevant propositions (i.e., to reject premise (2)) and offer an alternative explanation for the intuition that supports it. According to this explanation, the intuition that one shouldn't take the relevant bet, for example, is an intuition against manifesting a 'defect in one's epistemic character' rather than an intuition about how one ought to act in these circumstances. The thought, roughly, is that while taking the relevant bet is strictly speaking rational, doing so would manifest an undesirable epistemic character that "will foreseeably get one into trouble in none too distant scenarios," by which they mean "a range of subjectively similar possible bad cases where one does not know that p but for all one knows one does know that p " (2008: 588–9; see also Williamson 2005: 230–5 for a similar strategy). One should be cautious, however, in using such maneuvers. For if intuitions regarding the appropriateness of treating p as a reason for acting can be explained by appealing to considerations about manifesting defective epistemic characters, this threatens to generalize also to Hawthorne and Stanley's arguments for K-NEC. Suppose one justifiably believes but doesn't know *LOSE*. Hawthorne and Stanley think in this case there still seems to be something problematic with selling one's ticket on the basis of *LOSE*, and that this is explained by K-NEC. But if said maneuvers are legitimate, a defender of a justification norm of action may insist that it is appropriate to sell one's ticket based on *LOSE*, and that intuitions against it should be explained by appealing to the fact that doing so reflects badly on one's epistemic character. So without further qualifications, this strategy threatens to undermine Hawthorne and Stanley's case for K-NEC. For further criticisms of this strategy, see, e.g., Brown (2008b: 179–82), Fantl and McGrath (2009: 189–90), Gao (2019), and Vollet (2023).

5 K-SUFF and Explaining Encroachment

Pragmatic encroachment is *mad*. So think many epistemologists—including some encroachers.³¹ The idea that our practical interests can influence the epistemic status of our beliefs has struck many as outrageous. Even if pragmatic encroachment is true, encroachers owe us an explanation for how it even *could* be true—how could it be that knowledge is affected by things like stakes. Here’s Schroeder’s (2012) way of putting the concern:

[T]he most obvious problem with the pragmatic encroachment thesis is that it *doesn’t* seem like the kind of thing that could be true. We’re all brought up in epistemology on the foil of Pascal’s Wager, which shows how it might be advisable or beneficial to have some belief, independently of whether it is true. But Pascalian considerations, we observe, can’t ground *knowledge*. . . . If Pascalian considerations are our paradigm of practical factors, then it is puzzling in the extreme how practical factors could affect knowledge. (266)

If stakes can affect knowledge, then, there must be an explanation of *how* and *why* this is so. Pragmatic encroachers owe us an explanation for this mystery.

5.1 Clarifying the Challenge

Let me get clear on what exactly is the explanandum here. One way of understanding the challenge—one that is strongly suggested by Schroeder’s remarks—is that encroachers owe us an explanation that would help to *make sense of* pragmatic encroachment: one that would make pragmatic encroachment *less implausible* or *less mad*. While having such an explanation would certainly be advantageous, I think the explanatory challenge is better not understood this way. This is because understanding the challenge this way raises the bar *too high*. I suspect that (barring the doxastic explanations to be discussed in §6.1) if one finds the idea that stakes can affect knowledge implausible, one will still find it implausible, to an equal degree, even after one has been given the sorts of explanations encroachers provide—including Schroeder’s (to be discussed in §6.2). So I don’t think that understanding the challenge along these lines—as a demand to make pragmatic encroachment *less implausible* or *less mad*—is the best way of thinking about what’s at issue here.

³¹“There is nothing particularly mad about the idea that stakes can affect knowledge by affecting belief. Nor is there anything particularly mad about the idea that as stakes rise, what it’s proper to do and what it’s proper to base action on can change. What is mad is the idea that whether you are in a position to know could be affected by stakes. But that is precisely what the pragmatist approach requires.” (Fantl and McGrath 2009: 27)

Here, then, is the way I think we should understand the explanatory challenge for pragmatic encroachment. The challenge is this: If stakes can affect knowledge, *what is the thing in virtue of which* stakes affect knowledge when they do? To put it more concretely, minimally, encroachers hold that stakes can make it the case that you don't know. The challenge then asks: What is the thing in virtue of which stakes make it the case that you don't know when they do?

The motivation behind the challenge, as I'm understanding it, is this. To be sure, there is something puzzling about the idea that stakes can affect knowledge. But there is something *even more* puzzling about the idea that stakes can affect knowledge *directly*. We're all familiar with things that can directly make it the case that you don't know that p —perhaps you don't believe that p , perhaps p is false, perhaps you aren't justified in believing that p , perhaps you fail to meet the unGettired condition (whatever it turns out to be), and so on. Stakes, on the other hand, don't typically appear on that list. No encroacher, as far as I know, has endorsed a *stake* condition on knowledge, according to which you know that p only if the stakes for you in whether p aren't too high (nor would it be clear what such a condition even says—e.g., what counts as *too* high?).³² So, if stakes can affect knowledge, there must be something in virtue of which stakes affect knowledge when they do. Call this constraint on pragmatic encroachment theorists:

Explanatory Constraint: If stakes can affect knowledge, there must be something in virtue of which stakes affect knowledge when they do.

This, I think, is a more promising way of understanding the explanatory challenge for pragmatic encroachment. While having an explanation that would make pragmatic encroachment *less mad* would be preferable, I take it that if encroachers can't even meet this, modest explanatory challenge, this counts heavily against their view.

5.2 *K-SUFF and Explanatory Constraint*

Recall our main order of business: knowledge-action biconditionals. Pragmatic encroachment was brought up in this discussion only because K-SUFF, with a few very plausible premises, entails it. So the question I'm interested in here is not the question of what, in the most general terms, is the best way for pragmatic encroachers to accommodate Explanatory Constraint. It is, rather, what is the most plausible way *for someone who accepts K-SUFF* to accommodate Explanatory Constraint.

And here there seems to be an obvious way to go. Plausibly, whether it's rational for you to act on p partly depends on the stakes for you in whether p . Given this,

³²For a related observation, see Fantl and McGrath (2019: 261).

K-SUFF can explain what is the thing in virtue of which stakes affect knowledge when they do: they do so by affecting whether it would be rational to act on the relevant proposition. According to this explanation, then, knowing that p partly depends on the rationality of acting on p . Since whether it is rational for you to act on p partly depends on the stakes, it follows that whether you know that p partly depends on the stakes. So the dependence of knowledge on the stakes is mediated by the dependence of knowledge that p on the rationality of acting on p . Thus, utilizing principles like K-SUFF can help encroachers accommodate Explanatory Constraint.

Note, however, that this explanation doesn't exactly follow from K-SUFF. For K-SUFF is simply a material conditional, and material conditionals don't wear their explanatory order on their sleeves. Specifically, for K-SUFF to help encroachers accommodate Explanatory Constraint, the following, explanatory version of K-SUFF should hold:

K-SUFF*: You know that p only if *and partly because* it is rational for you to act on p .

K-SUFF* shouldn't come as a surprise. Indeed, many authors have naturally taken, either implicitly or explicitly, something like K-SUFF*—and not merely K-SUFF—as the underlying principle and the core commitment of pragmatic encroachment.³³ Locke (2017) is especially blunt on this point:

[W]e need to get clearer on just what it means for pragmatic factors to *play a role in determining whether a subject has knowledge*. What it does not mean is simply that there is some *necessary connection* between knowledge and pragmatic factors. No traditionalist would have denied, for example, that if you know that p , then there is at least some choice situation where it is rationally permissible for you to act as if p . Where proponents of pragmatic encroachment disagree with traditionalists is primarily over the *order of explanation*. According to traditionalists, your knowing that p is part of what *makes it the case* that it is rational for you to act as if p in those choice situations where it is rational for you to act as if p According to proponents of pragmatic encroachment, however, the fact that it is rational for you to act as if p in certain choice situation is part of what *makes it the case* that you know that p . (652)

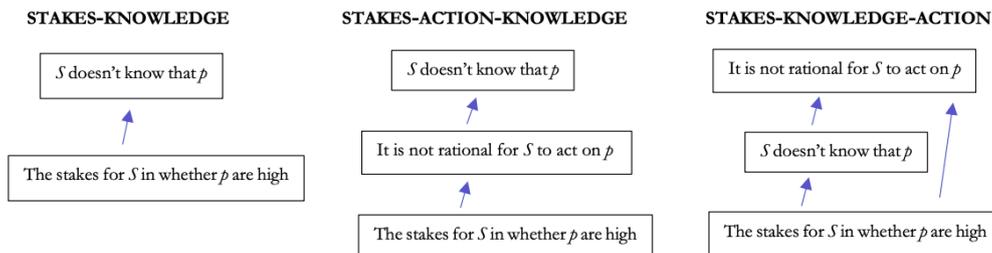
While pragmatic encroachment is *logically* consistent with denying that being rational to act on p is part of what makes it the case that you know that p —it's consistent, in other words, with denying K-SUFF*—I argue that encroachers who accept K-SUFF

³³See, e.g., Stanley (2005: v, 2), Vahid (2014: 27–8), McGrath (2018: 164n1), Gao (2021: 22–3), Fritz (2022), and Fantl (2023: 2198). See also Pinillos (forthcoming).

should also commit to K-SUFF*. This is because, by itself, K-SUFF cannot help them satisfy Explanatory Constraint.

To see this more clearly, suppose K-SUFF is true while K-SUFF* is false. Thus, being rational to act on p is a necessary condition for knowing that p , but it doesn't *explain* knowing that p . Perhaps, given these assumptions, being rational to act on p is a *metaphysical consequence* of knowing that p —it is *explained by* knowing that p . So, when it's not rational for you to act on p , though by K-SUFF this *entails* that you don't know that p , this doesn't *explain why* you don't know that p ; if anything, the fact that you don't know that p explains the fact that it's not rational for you to act on p . Given this, however, we are left without an explanation of how stakes affect knowledge when they do. Under these assumptions, stakes can affect knowledge, and they can also affect whether it is rational for you to act on p . But whether it is rational for you to act on p doesn't affect whether you know that p . So if stakes can affect knowledge, K-SUFF cannot explain how and why this is so if K-SUFF* is false.

To illustrate, the following diagrams represent the explanatory relations in a high-stakes situation in which the subject doesn't know that p due to the stakes for her in whether p (the arrows represent 'at least partly explains'):



STAKES-KNOWLEDGE represents the explanatory relations if Knowledge-Depends-Stakes were true but K-SUFF and K-SUFF* were false—i.e., if the fact that S doesn't know that p is explained by the fact that the stakes for S in whether p are high, but without this bearing any relation to the fact that it isn't rational for S to act on p . This picture straightforwardly fails to satisfy Explanatory Constraint: it cannot explain how and why stakes affect knowledge in such a case. STAKES-ACTION-KNOWLEDGE represents the explanatory relations if Knowledge-Depends-Stakes and K-SUFF* were true. This picture can easily satisfy Explanatory Constraint: it explains how and why stakes affect knowledge—they do so by affecting the rationality of acting on p . Lastly, STAKES-KNOWLEDGE-ACTION represents the explanatory relations if Knowledge-Depends-Stakes and K-SUFF were true, while K-SUFF* were false. On this picture, the high stakes in p and the lack of knowledge that p both play a role in explaining the irrationality of acting on p . But this does nothing to explain how and why stakes affect

knowledge. So STAKES-KNOWLEDGE-ACTION scores the same as STAKES-KNOWLEDGE vis-à-vis Explanatory Constraint: it fails to satisfy it completely.

Let's take stock. K-SUFF, with some very plausible assumptions, entails pragmatic encroachment. And pragmatic encroachment faces an explanatory challenge. The challenge is to provide a principled account of why and how stakes affect knowledge when they do. K-SUFF can help encroachers cope with this challenge, but only if this principle is understood as committed to an explanatory priority thesis: knowing that p partly depends on the rationality of acting on p . Without such a commitment, K-SUFF leaves the mystery of how stakes affect knowledge entirely unexplained. Since K-SUFF leads to pragmatic encroachment, and since the most promising way for someone who accepts K-SUFF to come up with a minimally plausible version of pragmatic encroachment is to commit to K-SUFF*, accepting K-SUFF should lead one to accept K-SUFF*.

We have now arrived at a serious problem for proponents of KAB. As argued in §3, their commitment to K-NEC commits them to hold that whether it's rational for you to act on p partly depends on whether you know that p . But, as I've just argued, their commitment to K-SUFF commits them to hold that whether you know that p partly depends on whether it's rational for you to act on p . We can state the problem explicitly with the following inconsistent triad:

- (a) It isn't rational for Hannah-HIGH to act on TOMORROW partly because she doesn't know TOMORROW.
- (b) Hannah-HIGH doesn't know TOMORROW partly because it isn't rational for her to act on TOMORROW.
- (c) The Euthyphro Principle: For all facts A and B , if A partly because B , then it's not the case that B partly because A .

K-NEC, I've argued in §3, commits to (a), whereas K-SUFF, I've just argued, commits to (b). Given the Euthyphro Principle, accepting K-NEC should lead one to reject K-SUFF, and vice versa.³⁴

³⁴Somewhat surprisingly, worries about the order of explanation of K-SUFF have been raised by Hawthorne and Stanley themselves, but they seem to have failed to appreciate the implications of these worries to their view. Specifically, Hawthorne and Stanley insist that (a) is true, and argue that Fantl and McGrath's (2002) K-SUFF commits them to (b). Thus, Hawthorne and Stanley write:

6 Other Explanations?

Let me get clear on the dialectic. In §3, I argued that K-NEC strongly supports K-NEC*, and so committing to K-NEC while denying K-NEC* is highly unmotivated. In §4, I argued that K-SUFF, together with some very plausible assumptions, entails pragmatic encroachment. Finally, in §5.1 I laid out the explanatory challenge for

[Fantl and McGrath’s] principle tells us—correctly in our view—that [when it’s irrational to act on p] one does not know that p . Yet the decision theoretic gloss that Fantl and McGrath offer gets the order of explanation the wrong way around. Consider the case ... where on Friday one considers postponing a visit to the bank until Saturday in a “high stakes” situation, where much depends upon reaching the bank before Monday. The envisaged account tells us that in situations such as these, one does not know the relevant proposition and that this is because it would be irrational to act on that proposition. But that pattern of explanation does not fit our intuitive diagnosis. ... [O]ur reaction to a high stakes bank case is not that someone does not know on Friday that the bank will be open on Saturday, because it is not rational for that person to wait until Saturday. It is rather that it is not rational for the person to wait until Saturday to go to the bank, because she does not know that the bank will be open. (2008: 576; see also Reed 2012: 470–1.)

This is surprising since, as Hawthorne and Stanley (2008: 580) themselves acknowledge, their view entails Fantl and McGrath’s K-SUFF. Hawthorne and Stanley, then, seem to endorse STAKES-KNOWLEDGE-ACTION, and so they are committed to saying that stakes make a difference to knowledge *directly*, without any explanation of how and why this is so. So their view straightforwardly fails to satisfy Explanatory Constraint.

Fantl and McGrath have officially responded to Hawthorne and Stanley’s challenge by insisting they have no commitment one way or another:

We have claimed that what you know is warranted enough to be a reason, but we have *not* taken a stand on whether this sufficiency claim is grounded in certain explanatory relations between knowledge and reasons. One could maintain that what is known is warranted enough to be a reason because knowledge *explains* or *grounds* being warranted enough to be a reason. Alternatively, one could maintain that what is known is warranted enough to be a reason because the latter is part of what it is for p to count as knowledge. Under the first view, knowledge is deeply explanatory of reasons: things get to be reasons in part because they’re known. Under the second view, knowledge lacks this explanatory depth. We are neutral between the two views. (Fantl and McGrath 2009: 222)

Since Fantl and McGrath reject K-NEC, it’s open to them to reject K-NEC* and thus avoid Hawthorne and Stanley’s *original* challenge (though it won’t help them avoid a revised version of the challenge, one that targets JAB). However, given Explanatory Constraint, they cannot claim neutrality on K-SUFF*. Indeed, in later work, Fantl and McGrath seem to admit they have accepted K-SUFF* (and given their commitment to J-SUFF and to pragmatic encroachment on justification, they will plausibly be committed to J-SUFF*):

One way the difference in knowledge could be due to difference in stakes is by the latter making a difference to a further factor more intimately related to knowledge than stakes themselves. In my work with Fantl, I have maintained that knowledge entails a factor X and that stakes can make a difference to knowledge *indirectly* because they can make a difference to X , which in turn makes a difference to knowledge *directly*. Fantl and I have taken X to be reason-worthiness. (McGrath 2018: 164n1; see also Fantl 2023: 2198, and Pinillos [forthcoming](#).)

But again: if whether you know (or are justified in believing) that p depends on whether p is ‘reason-worthy’ for you (and stakes make a difference to the former by making a difference to the latter), then whether p is ‘reason-worthy’ for you doesn’t depend on whether you know (or are justified in believing) that p . If that is their commitment, Fantl and McGrath should give up on J-NEC.

Thus, Hawthorne and Stanley and Fantl and McGrath seem to have picked opposite sides vis-à-vis the Euthyphro Challenge. They have both, however, failed to appreciate the costs of committing to either side: Hawthorne and Stanley should give up on K-SUFF, whereas Fantl and McGrath should give up on J-NEC.

pragmatic encroachment, and in §5.2 I argued that the most promising way for K-SUFF proponents to cope with the challenge is by committing to K-SUFF*. Note: the most *promising* way, not the *only* way. Since, as argued in §3, accepting K-NEC should lead one to accept K-NEC*, then given the Euthyphro Principle, explaining encroachment by appealing to K-SUFF* isn't available for proponents of KAB. But this doesn't yet show that no other explanations are available.

In this section, then, I turn to discuss two other prominent explanations. I'll argue that neither of these explanations can help KAB proponents accommodate Explanatory Constraint: they end up being in tension with K-SUFF, K-NEC, or both.

6.1 Doxastic Explanations

The first type of explanation suggests accommodating Explanatory Constraint by claiming that stakes can affect knowledge by affecting *belief*. According to this view, while knowledge partly depends on stakes, *the epistemic status of our beliefs* doesn't depend on stakes. Encroachment, on this view, occurs at the descriptive rather than the normative level: it occurs at the level of belief. If something like this explanation is correct, the resulting view should also be friendly to traditional (i.e., non-pragmatic encroachers, or 'purists') epistemologists. Indeed, I take it that if this explanation is correct, it can even answer what seems to be Schroeder's original explanatory challenge for pragmatic encroachment—it can explain away this view's *madness*.

Now, these sorts of doxastic explanations have been explicitly rejected by proponents of our biconditionals. Fantl and McGrath, for example, take pragmatic encroachment to be the view that “whether you are *in a position to know* could be affected by stakes” (2009: 27, emphasis added). Stanley argues that “factors that make *true belief into knowledge* include elements from practical rationality” and so “what makes *true belief into knowledge* is not entirely an epistemic matter” (2005: 2, emphasis added). And Hawthorne says his version of K-SUFF entails that, “Insofar as it is unacceptable ... to use a belief that *p* as a premise in practical reasoning on a certain occasion, *the belief* is not a piece of knowledge at that time” (2004: 176, emphasis added). On any of these views, when stakes make it the case that you don't know, they don't do so in virtue of affecting whether you believe—even if you would still believe, your belief wouldn't amount to knowledge. But even if proponents of our biconditionals themselves reject these explanations, it would be better if we could show that even such a possible position is untenable.

A basic form of doxastic explanation begins with embracing a view of belief according to which believing that *p* is closely tied to *being disposed to* or to *being willing to act on p*. Roughly, on this view, you believe that *p* just in case you are

disposed to or are willing to act on p .³⁵ When the stakes in whether p are high, we usually are *not* disposed to act on p . Hannah-HIGH, for example, isn't disposed to wait for tomorrow to deposit her paycheck based on TOMORROW; rather, she is disposed to deposit now. It follows from this theory of belief that Hannah-HIGH doesn't *believe* TOMORROW. So it's not surprising, on this theory, that Hannah-HIGH doesn't *know* TOMORROW—this is fully explained by her lack of belief.

To be sure, the prospects of this explanation crucially depend on the plausibility of the theory of belief it relies on. But let's grant this theory of belief. Can it give a full explanation of pragmatic encroachment on behalf of K-SUFF proponents? I don't think so. For suppose—despite its being irrational—that Hannah-HIGH is disposed to act on TOMORROW. Indeed, suppose she *irrationally acts* on TOMORROW—she decides to wait for tomorrow to deposit her paycheck based on TOMORROW.³⁶ This theory of belief entails that in such a case, Hannah-HIGH *does* believe TOMORROW. Yet, since it's irrational for her to act on TOMORROW, K-SUFF entails that she doesn't know TOMORROW. But if it's not the case that she doesn't know TOMORROW *because* it's irrational for her to act on TOMORROW—if, in other words, K-SUFF* is false—we are left again without an explanation of how the stakes make it the case that she doesn't know. So this doxastic explanation won't help someone who accepts K-SUFF and denies K-SUFF* to accommodate Explanatory Constraint.

Now, a tempting line of response may be as follows. Granted, on this theory of belief, since she acted on TOMORROW, Hannah-HIGH did *believe* TOMORROW. However, since it was *irrational* for her to act on TOMORROW, this theory of belief should entail that it was *irrational for her to believe* TOMORROW.³⁷ If to believe that p is to be disposed to act on p , then if it's irrational to act on p , it's irrational to believe that p . Thus, if being rational in believing that p is a necessary condition for knowing that p , then this theory can still explain Hannah-HIGH's lack of knowledge even if she does believe: it is explained by her being *irrational* in believing.

But this explanation, even if correct, won't help avoid the problem. For notice that this explanation ultimately relies on exactly what those who reject K-SUFF* cannot allow themselves to rely on in explaining Hannah-HIGH's lack of knowledge: that it's irrational for her to act on TOMORROW. This explanation simply adds another mediate explanans: Hannah-HIGH doesn't know TOMORROW *because* it's irrational for her to believe TOMORROW, and it's irrational for her to believe TOMORROW *because* it's

³⁵This is, very roughly, the view expressed by Weatherson (2005), Ganson (2008) and Ross and Schroeder (2014). (Weatherson 2012 changed his mind and rejected his earlier explanation.)

³⁶See Fantl and McGrath (2009: 158) for a related move.

³⁷Compare Ross and Schroeder's (2014) Justification Condition on Occurrent Attitudes: "If having attitude A essentially involves being disposed to ϕ under circumstance C , then an agent S is justified to occurrently have attitude A in C only if it is rationally permissible for S to ϕ in C ." (271)

irrational for her to act on TOMORROW. By transitivity, Hannah-HIGH doesn't know TOMORROW *because* it's irrational for her to act on TOMORROW. So this explanation, even if correct, won't help KAB proponents to avoid our problem: they will still be committed to K-SUFF*.

6.2 Schroeder's Reasons to Withhold Explanation

Schroeder's (2012) explanation aims to show "how practical factors could play a role in defeating knowledge by defeating *epistemic rationality*—the very kind of rationality that is entailed by knowledge" (266, emphasis added). If someone threatens to kill your family if you believe that $2+2=4$, for example, then there is *a* sense in which it isn't rational for you to believe that $2+2=4$. But this is *not* the distinctive *epistemic* sense of 'rational' that Schroeder thinks is necessary for knowledge and that can be defeated by stakes. Rather, for Schroeder, stakes can defeat the kind of rationality that is distinctively epistemic, that is necessary for knowledge, and that has traditionally been taken as consisting solely of things like evidence.

Schroeder's explanation is as follows. First, he offers the following principle:

Bf.Sufficiency: It is epistemically rational for *S* to believe *p* just in case *S* has at least as much epistemic reason to believe *p* as to believe $\sim p$ and *S* has at least as much epistemic reason to believe *p* as to withhold with respect to *p*. (274)

Schroeder argues that while epistemic reasons to believe *p* or to believe $\sim p$ entirely consist of things like evidence, epistemic reasons *to withhold* cannot be evidence. This is because, he argues, every piece of evidence vis-à-vis *p* either supports *p* or supports $\sim p$. If it supports *p*, then it's an epistemic reason to believe *p*; if it supports $\sim p$, then it's an epistemic reason to believe $\sim p$. Consequently, epistemic reasons *to withhold* cannot be evidence; these "must come from somewhere else" (276).

Schroeder then suggests that epistemic reasons to withhold can be the *costs of error*. These come in two types. One type—*type-1 error*—is associated with the costs of getting things wrong when you falsely believe that *p*. The other type—*type-2 error*—is associated with the costs of missing out on having a true belief when you withhold. When the costs of type-1 error are weightier than the costs of type-2 error—when the costs of having a false belief are weightier than the costs of missing out on having a true belief—then, on Schroeder's view, one has an epistemic reason to withhold.³⁸

Finally, how do costs of falsely *believing* or costs of missing out on having a true *belief* bear to cases like the bank case? In a brief passage, Schroeder suggests that

³⁸Schroeder's final picture is more complicated, since in such cases, one would have an epistemic reason to *either* withhold or *disbelieve* the relevant proposition. Schroeder offers a more complex model to deal with this complication—see Schroeder (2012: 279–81).

this is due to “the connection between belief and action” (277). Thus, he says,

To be the right sort of cost of type-1 error, on this view, you have to be a cost that a belief gives rise to when it is false, due to its playing its normal role as a belief—the sort of cost that is intrinsic to the nature of belief. And to be the right sort of cost of type-2 error, on this view, you have to be a benefit of having made up your mind that having made up your mind gives rise to, due to its playing its normal role—the sort of benefit that is intrinsic to the nature of belief. Gratifyingly, in High Stakes the costs of type-1 error are extremely high, and the costs of type-2 error are very low, which on this picture supports the view that there are especially strong reasons to withhold in that case. Indeed, the main difference between the Low Stakes case and the High Stakes case is that the cost of falsely believing that the bank will be open on Saturday that will accrue to that false belief due to Hannah acting on it, is much higher in High Stakes. (277–8)

Schroeder seems to assume something like the view of belief mentioned in §6.1—roughly, it’s intrinsic to the nature of belief that you will be disposed to act on your belief. This, he argues, gives the result that Hannah-HIGH has an epistemic reason to withhold with respect to TOMORROW. Specifically, if Hannah-HIGH believes TOMORROW and gets it wrong, the costs of acting on TOMORROW—costs that are intrinsic to the nature of belief, in Schroeder’s view—are very high, whereas if she withholds with respect to TOMORROW and misses out on the truth of TOMORROW, the costs of depositing now are relatively low. Therefore, Hannah-HIGH has an *epistemic* reason to withhold with respect to TOMORROW. In particular, she has more epistemic reason to withhold with respect to TOMORROW than to believe TOMORROW.³⁹ By Bf.Sufficiency, it isn’t epistemically rational for her to believe TOMORROW, and this explains why she doesn’t know.

There are, then, lots of moving parts in Schroeder’s explanation—each of them has received critical attention.⁴⁰ But the question I’m interested in here, recall, is how attractive his explanation might be for KAB proponents. Crucially, note that Schroeder’s explanation of why it’s not epistemically rational for Hannah-HIGH to believe TOMORROW does *not* appeal to the fact that it’s not rational for her *to act* on TOMORROW. Rather, it only appeals to *the costs of falsely acting on TOMORROW*, which,

³⁹Though one would need to fill out the details of how exactly to weigh reasons to withhold against reasons to believe. See Schroeder (2012: 280) and Bruneo (2022).

⁴⁰For concerns about Bf.Sufficiency, see Cohen (2016: 430–3); for concerns about the claim that epistemic reasons to withhold cannot be evidence, see Roeber (2016: 441–2); for concerns about the theory of belief that Schroeder seems to presuppose, see Roeder (2018: 184–5); for concerns about whether this theory of belief helps his explanation, see Worsnip (2021: 554–5); for concerns about whether Schroeder’s reasons to withhold are genuinely epistemic, see Vahid (2014: 38–40) and Leary (2022: 663–4).

given his theory of belief, are costs that are intrinsic to the nature of *believing* TOMORROW. So, Schroeder's explanation doesn't fall into the problem with the previous explanation: it doesn't ultimately rely on the fact that it isn't rational to act on p in explaining how stakes affect one's knowledge that p .

This advantage of Schroeder's explanation, however, is also a source of its weakness. Specifically, it highlights a tension between his explanation and K-SUFF. Indeed, this tension is brought to the fore by Schroeder himself. He writes,

Some philosophers may hold that Hannah's lack of knowledge in High Stakes cases *can't* be explained by the fact that it is epistemically irrational for her to believe in that case, not because of general assumptions about the relationship between epistemic rationality and evidence or truth, but simply because they find it intuitively much more natural to describe High Stakes as a case in which it is rational for Hannah not to rely on her beliefs. Philosophers who take this view emphasize the importance of distinguishing between what it is rational to believe and what it is rational to do, and would not have us conflate those two questions. I agree—let's not conflate the question of what it is rational to believe and what it is rational to do, no matter how we are understanding rationality. Nothing I will say in this paper will be inconsistent with the thesis that *some* High Stakes-like cases are cases in which it is rational for Hannah to believe, but it is not rational for Hannah to rely on this belief. Indeed, in my view there clearly are cases like this. If there are such cases, I will say that they are cases in which Hannah knows, but she should not act on her knowledge. All that the pragmatic encroachment thesis as explained on the picture I will be offering requires, is that in *some* High Stakes cases, belief is not epistemically rational. (269)

Schroeder insists that he doesn't want to blur the distinction between what it's rational to believe and what it's rational to do. On his view, there should be cases in which while it's epistemically rational to believe that p , it's *not* rational to act on p .⁴¹ Consequently, he is committed to saying that in such cases, the subject may know that p despite its being irrational for her to act on p ; he is committed, in other words, to reject K-SUFF.

This poses a dilemma for a K-SUFF proponent who accepts Schroeder's explanation. Either one thinks there are cases in which it's epistemically rational to believe that p while it isn't rational to act on p , or one thinks there aren't. If, like Schroeder, one thinks there are such cases, then a K-SUFF proponent is committed to saying that in such cases the subject doesn't know, and this cannot be explained by the fact that it's epistemically irrational for her to believe. So Schroeder's explanation is

⁴¹See Schroeder (2021: 176–8) for what he takes to be such cases.

unavailable for such cases. And if one thinks there are no such cases, then combining Schroeder's explanation and K-SUFF will indeed force one into blurring the distinction between what it is *epistemically rational* to believe and what it is rational to do. And this is a further commitment, one that Schroeder has tried to avoid, and one that proponents of K-SUFF—those who reject Schroeder's explanation—needn't endorse.⁴²

Moreover, committing to this second horn is also in tension with K-NEC. If one thinks there aren't cases in which it's epistemically rational for you to believe that *p* while it isn't rational for you to act on *p*, one is committed to:

R-SUFF: If it's epistemically rational for you to believe that *p*, then it's rational for you to act on *p*.

But this raises a further problem, this time for K-NEC proponents. In conjunction with K-NEC, R-SUFF entails:

K-NEC-R: It's epistemically rational for you to believe that *p* only if you know that *p*.

Now, intuitively, K-NEC-R is highly implausible—it entails, for example, that it's always epistemically irrational to believe false propositions or to have Gettiered beliefs.⁴³ But despite its unintuitive consequences, some, specifically *Knowledge-Firsters*, have endorsed K-NEC-R.⁴⁴ Roughly, according to them, K-NEC-R is true because 'belief aims at knowledge,' and so knowledge is the norm of belief. When one believes that *p*, on this view, one takes oneself to *know* that *p*. So the standard of appropriateness of belief is knowledge. Thus, on this view, when you don't know or aren't in a position to know that *p*, while it might be excusable, it's epistemically irrational for you to believe that *p*.

While it's beyond the scope of this paper to closely evaluate the success of these defenses of K-NEC-R, I shall only highlight the following dialectical point: Schroeder's explanation doesn't sit well with them. This is because, for Schroeder's explanation to succeed, we must assume that epistemic rationality is *explanatorily prior* to knowledge: on his explanation, Hannah-HIGH doesn't know TOMORROW *because* it's epistemically irrational for her to believe TOMORROW. On K-NEC-R, by contrast, the explanatory

⁴²Indeed, this is a commitment that even J-SUFF proponents needn't endorse. For Fantl and McGrath, for example, stakes can affect whether you are justified in believing. But they think of epistemic justification as an *obligatory* notion: you are justified in believing that *p* just in case you *should* believe that *p* (2009: 131). So, on their view, stakes can affect whether you *should* or *ought* to believe, not whether it's *permissible* for you to believe. If they accept Schroeder's explanation, they will be committed to saying that stakes can also affect the latter.

⁴³See, e.g., Cohen and Comesaña (2013), McGlynn (2013), and Comesaña (2020). See also Hawthorne et al. (2016).

⁴⁴See, e.g., Sutton (2005), Littlejohn (2013), and Williamson (2013, 2017b, forthcoming).

order, if at all, goes in the other direction.⁴⁵ Roughly, on this view, when you don't know that p , then it's epistemically irrational for you to believe that p *because* believing so would violate the knowledge norm of belief; it's epistemically irrational to believe, on this view, *because* you don't know. On this picture, for example, it's epistemically irrational for Hannah-HIGH to believe TOMORROW *because* she doesn't know TOMORROW; not the other way around. Even granting all of these highly controversial commitments, then, Schroeder's explanation would still not help KAB proponents escape the problem.

Perhaps there are other ways for KAB proponents to accommodate Explanatory Constraint—ways that don't ultimately rely on K-SUFF*, and that don't stand in any tension with K-SUFF or K-NEC. Nonetheless, the failure of the explanations just reviewed at the very least puts pressure on KAB proponents to provide such an alternative explanation. As long as no such explanation is in the offing, accepting K-NEC should lead one to reject K-SUFF, and vice versa.

7 Conclusion

Many philosophers think there are tight connections between the epistemic status of our beliefs and the rationality of acting on those beliefs. Some philosophers have cashed out these intuitive connections by claiming that knowledge or justification is both necessary and sufficient for rational action: they endorse knowledge-action or justification-action biconditionals. In this paper, I've argued that principled considerations concerning metaphysical dependence and explanatory priority show this way of cashing out these intuitive connections is misguided. This is because each direction of these biconditionals strongly supports an opposite order of explanation to the one that is supported by the other direction. So these biconditionals end up being in conflict with the asymmetry of metaphysical explanations and grounding. Thus, while knowledge might be necessary for rational action, and it might be sufficient, it cannot be both. And the same goes for justification.

This is a surprising result. While the question 'What depends on what?' seems like a legitimate question to ask when encountering a biconditional, this question typically does not yield a symmetrical answer. Typically, when A iff B , then either A explains B , B explains A , or neither explains the other, perhaps because something else explains both. In the case of our biconditionals, however, I've argued there are specific, intricate reasons for thinking each direction supports an opposite order of

⁴⁵I say 'if at all' since some Knowledge-Firsters may hold that epistemic rationality *just is* knowledge. Even that view, however, is in tension with Schroeder's explanation, since metaphysical explanations are irreflexive.

explanation to the one that is supported by the other direction.

Accepting that knowledge is necessary for rational action, I've argued, commits one to taking the former as explanatorily prior to the latter. This is so, first, because of the standard picture of rational action, a picture that takes one's rational doxastic attitudes as explanatorily prior to what it is rational to do. But more importantly, this is because the *main motivation* for accepting this conditional supports this explanatory priority claim. So accepting this conditional without the accompanying explanatory priority claim is highly unmotivated. In contrast, accepting that knowledge is sufficient for rational action, I've argued, commits one to taking the latter as explanatorily prior to the former. This, however, is not because of the *motivation* for accepting this conditional, but rather because of what it *entails*: it entails pragmatic encroachment, and the most promising way for someone who accepts this conditional to come up with a minimally plausible version of pragmatic encroachment, I've argued, is to take rational action as explanatorily prior to knowledge. And the same goes, *mutatis mutandis*, to justification.

While perhaps initially appealing, closely tying epistemic and practical rationality should be done with caution. In addition to aiming for extensionally adequate accounts, epistemologists should pay close attention to questions about explanatory priority and metaphysical dependence; we should also think about what depends on what.

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