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ORIGINAL ARTICLE

Knowledge and acceptance

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Abstract
In a recent paper, Jie Gao (*Synthese* 194:1901–17, 2017) has argued that there are acceptance-based counterexamples to the knowledge norm for practical reasoning (KPR). KPR tells us that we may only rely on known propositions in practical reasoning, yet there are cases of practical reasoning in which we seem to permissibly rely on merely accepted propositions, which fail to constitute knowledge. In this paper, I will argue that such cases pose no threat to a more broadly conceived knowledge-based view of practical reasoning. I will first motivate the view that rational acceptance depends on a knowledge-based condition being met. I will then show how KPR can be amended—yielding what I call KPR$^+$—to include this condition. I will argue that KPR$^+$ not only avoids Gao's counterexample, but harbours additional explanatory power by providing an account of the normative role of acceptance in practical reasoning. Finally, I will defend KPR$^+$ against objections by employing theoretical tools that are readily available to those sympathetic to knowledge-based views.

Keywords Knowledge · Acceptance · Knowledge norms · Practical reasoning · Reliance · Instrumental reasoning

1 Introduction

Both armchair considerations and work in experimental philosophy have provided considerable support for the view that knowledge talk plays an essential role for the assessment of practical reasoning.[1] For instance, we criticise those who in their

[1] See Hawthorne (2004), Stanley (2005), Hawthorne and Stanley (2008), Pinillos (2012), Pinillos and Simpson (2014), Turri (2015), Turri and Buckwalter (2017) and Turri et al. (2017). For some discussion, see Gerken (2017, 129–130) and Dinges and Zakkou (2020). For an overview, see Heil et al. (2022).

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practical reasoning rely on propositions they do not know. Suppose that Layla is lactose intolerant and orders some ice cream at a café. The café has both milk-based and vegan flavours on offer. She believes on a hunch that all the flavours she orders are vegan, without checking the menu to confirm this. Her friend can now criticise Layla, knowing how unwell she feels if she ingests lactose, by pointing out that she does not know that the flavours she ordered do not contain lactose.

We can also defend ourselves against challenges by pointing out that we know the propositions we relied on in our practical reasoning. Suppose that Bianca just completed the weekly grocery shopping by going to a supermarket further away. As she gets home, her wife Holly complains that it took her an unusually long time to buy groceries. Bianca can naturally defend herself by pointing out that she knew that she can only get the berries Holly likes so much in the supermarket further away, but not at their local supermarket.

One way to explain the ubiquity of this type of knowledge talk is to argue that knowledge plays an essential role for the propriety of practical reasoning. Various authors have suggested that such a knowledge-based conception of practical reasoning should be cashed out in terms of a norm that governs our practical reasoning and has a knowledge-based compliance condition:[2]

Knowledge norm for practical reasoning (KPR) One may rely on a proposition $\boldsymbol{p}$ in practical reasoning iff one knows that $\boldsymbol{p}$.[3]

KPR has been challenged on various fronts. In this paper, I will focus on a powerful objection against KPR from Gao (2017). She argues that there are counterexamples to KPR in which we seem to permissibly rely on propositions that are merely accepted, but not known. Acceptance is commonly conceived as a context-dependent propositional attitude that is tightly linked to practical reasoning, but does not entail knowledge or even belief. According to Gao, acceptance-based cases show that knowledge is not necessary for permissible reliance and thus that KPR is false. If KPR is false, then a knowledge-based conception of practical reasoning might not be tenable.

[2] Turri (2015, 4011) puts the broadly accepted methodology behind this explanatory approach as follows: "The underlying assumption here is that people are at least implicitly sensitive to the norms in question and, consequently, that their normative intuitions can be a source of evidence about the content of the norms. Put otherwise, people's intuitive judgments about cases tend to manifest their competence, resulting in detectable patterns. We can then use these patterns when theorizing about the content of the norms."

[3] Proponents of the knowledge norm include Hawthorne (2004; 2008), Williamson (2005), Stanley (2005; 2008), Smithies (2012), Mehta (2016), Simion (2021), Schulz (2021) and Mueller (2021), though not everyone believes that knowledge is both necessary and sufficient for permissible reliance. While the defended norms differ in some details, I think the core idea behind these norms can captured by the notion of reliance (Fantl & McGrath, 2019, 259; Fritz, 2022, 1193). Whatever the propositions we rely on in practical reasoning ultimately are (e.g. premises in our practical reasoning (Williamson, 2005) or reasons for action (Hawthorne & Stanley, 2008)), they need to be known for our reliance to be permissible. It is noteworthy that the relevant notion of reliance is cognitively undemanding: while we can rely on a proposition by consciously reasoning with it, we can also rely on a proposition by being merely sensitive to it, say, when we rely on the proposition that our keys are by the door to mindlessly pick up said keys on the way out.

The aim of this paper is to defend a knowledge-based conception of practical reasoning against Gao's objection. However, the argument I am going to pursue is also of interest for those who reject KPR. The reason for this is that Gao's acceptance-based cases are counterexamples to any kind of epistemic norm for practical reasoning, be it in terms of justified belief (Neta, 2009), warrant (Gerken, 2011) or certainty (Beddor, 2020). My argument can serve as a schema for a defence of views that put epistemic notions other than knowledge at their centre. While I will defend a knowledge-based conception of practical reasoning in particular, the following considerations will be of interest to anyone who is concerned with defending epistemic norms of practical reasoning and, more generally, with the rationality of acceptance.

I will start out my defence by acknowledging that Gao gets something right: KPR leaves no room for acceptance-based reliance and is thus, as it stands, false. However, this is no objection to a knowledge-based conception of practical reasoning if the permissibility of acceptance-based reliance can be explained in terms of knowledge. Providing such an explanation will be the task for this paper. I will argue that there is a natural extension of KPR that specifies a knowledge-based condition for when acceptance-based reliance is permissible. If this is right, then Gao's cases do not speak against a knowledge-based conception of practical reasoning, but rather constitute more evidence for it.

The paper is structured as follows. In section 2, I will present Gao's objection and consider some initial responses. In section 3, I will argue for the view that knowledge plays a role for the rationality of acceptance. Based on these considerations, I will propose an amendment to KPR—KPR$^+$—which includes a knowledge-based condition for when it is rational to rely on merely accepted propositions in practical reasoning. I will show that KPR$^+$ delivers the intuitively correct verdict about cases of permissible reliance on accepted propositions, yielding an extended knowledge-based view of practical reasoning that avoids Gao's objection. In section 4, I will consider objections to my proposal and show that they can be answered by using theoretical tools that are well established and that proponents of KPR are committed to using anyway.

2 An acceptance-based counterexample to KPR

Consider the following case from Gao (2017, 1908–1909):

> Accepting Science
>
> A scientist, Mary, must deliberate about which specific act of computation she should perform in order to calculate the amount of fuel needed to get to the moon and back in a lunar module. Mary needs to calculate the amount of fuel quickly. She does not have time to use General Relativity, which (let us say) she actually knows to be the true theory. She can calculate the amount of fuel more quickly by using Newton's laws, which Mary believes to be false but good approximation

to the truth for her present purposes. While Mary could well use as a premise in her reasoning something she knows—e.g. the complex proposition that [$F = ma$ is the Newton's law necessary for calculating the needed amount of fuel, and $F = ma$, though false, provides a good approximation given her present practical purposes]—we can well conceive circumstances in which Mary does not use this complex proposition as a premise in her reasoning, but rather reasons as follows:

1 I must calculate the vector sum of the force of *O*.
2 The vector sum of the force of an object is equal to the mass multiplied by its acceleration.
3 Therefore, I shall multiply the mass of *O* by the acceleration of *O*.

As Gao points out, relying on the accepted proposition (2) in practical reasoning seems permissible for Mary. However, Newtonian Mechanics is false and so is (2). Hence, we seem to have a case where it is intuitively permissible in practical reasoning to rely on a proposition that is not known. If this is right, then Accepting Science is a counterexample to KPR.

The case arises naturally since what is required for rational acceptance is different than what is required for rational belief. Whether a belief is rational depends on epistemic factors, such as whether it is supported by one's evidence. For instance, your belief that the dog has been fed is rational if you see your very full-looking dog napping next to her empty bowl. By contrast, whether acceptance is rational can also depend on prudential, legal or moral factors (Bratman, 1992, 4; Cohen, 1989, 369; Cohen, 1992, 102; Engel, 1998, 146–147). Suppose an attorney accepts that her client is innocent (Engel, 1998, 145). Accepting this proposition is permissible for the attorney if (say) doing so furthers the legal purpose of her pleading before a jury. This may be so even if she has overwhelming evidence that her client is guilty and in fact believes that he is. Or suppose that you witness what you know to be a brazen lie by a person about her personal life in a social setting with a judgemental crowd. One might accept this lie in the context of one's conversation if doing so serves the moral purpose of protecting the liar from having to reveal a humiliating fact about themselves that would be condemned by said crowd. Mary is concerned with a prudential goal when she accepts Newtonian Mechanics in her reasoning. Relying on Newtonian Mechanics instead of General Relativity serves the purpose of expediently calculating the amount of fuel needed for the lunar module. Although we treat both believed and accepted propositions as if they are true, only believing a proposition involves a "commitment to getting its truth-value right" (Gao, 2017, 1907). Accordingly, only belief, but not acceptance, is assessed according to whether it does well in this respect.

For the sake of the argument, I will grant Gao's assumption that the practical reasoning in Accepting Science is correctly described and that Mary in fact relies on (2).[4]

[4] One way to challenge her assumption is to argue that Mary does not in fact rely on (2′), but rather on a proposition she can know, perhaps something like: (2′) the vector sum of the force of an object is approximately equal to its mass multiplied by its acceleration. One might try to support this claim by drawing an analogy to loose talk. When I tell a friend to meet up at 3 o'clock, she will most likely understand me

How could proponents of KPR respond to Accepting Science? One approach would be to challenge the intuition that relying on (2) is rationally permissible. For instance, one could start out by observing that Mary is clearly not blameworthy for using Newtonian Mechanics in her reasoning. Lack of blameworthiness is typically taken to be an indicator for permissibility. Yet, lack of blameworthiness is merely a defeasible indicator for the latter; as proponents of KPR have been pointing out, blame can also be deflected by having a proper excuse (Hawthorne & Stanley, 2008). Could not Accepting Science be a case in which the subject's reliance is not permissible, but merely excusable?

I do not think this is plausible. To see this, consider a recent popular account of excuse, Williamson's (forthcoming) dispositional account.[5] It says that one is excused in a violation of KPR if one does what someone who is disposed to comply with KPR would do in one's circumstances. Someone who is disposed to comply with KPR will manifest this disposition in suitable circumstances, namely when she has decision-relevant knowledge available. Mary's case constitutes such circumstances: A person who is disposed to comply with KPR would rely on known propositions—i.e. General Relativity, not Newtonian Mechanics—to calculate the needed amount of fuel for the lunar module. Furthermore, we do not think that the relevant dispositions would be masked in circumstances in which manifesting them would only be inconvenient. Hence, Mary is not excused in her violation of KPR.[6]

Contrast these circumstances with those in which one is "attacked by an axe-murderer" (Hawthorne & Stanley, 2008, 587). Here, we expect someone who is disposed to comply with KPR to violate the latter if it means that they get to escape a gruesome death. Mortal danger, but not the inconvenience of having to do a more complex calculation, excuses a violation of KPR.[7] This also very much tracks our intuitive verdict about the case: There is simply nothing that Mary's needs an excuse

Footnote 4 (continued)
as saying that we should meet up at around 3 o'clock. Likewise, one might think that while Mary can be described as conducting her reasoning in terms of (2), she de facto relies on a looser content, as captured by (2′). However, this claim presupposes that the putative looseness is to be located in the content of the proposition. Yet, whether loose talk should be analysed as a semantic phenomenon (DeRose, 2012; Krifka, 2007; Solt, 2014) rather than a pragmatic phenomenon (Hoek, 2018; Klecha, 2018; Lasersohn, 1999) is contentious, so the appeal to loose talk does (at best) lend only weak support for challenging Gao's description of Mary's practical reasoning. There is also a further worry with the (2′) description: The approximately operator has some formal properties (such as not being transitive) that make correctly reasoning with it cognitively more demanding. It would thus be surprising if a subject who aims at reducing cognitive labour in her practical reasoning employs an operator that needs considerable cognitive involvement for its proper use.

[5] For discussion of Williamson's account, see Brown (2018), Boult (2017, 2019) and Heil (2022).

[6] Other accounts of excuses give us this result, too. According to one epistemic accounts of excuse, one is excused if one was not in a position to know that one violated a norm. However, Mary knows that Newtonian Mechanics is false and that General Relativity would give her more precise results. She knows that she is to some extent bending the rules, so no excuse is forthcoming for her on this account either.

[7] In the same vein, we expect of law-abiding citizens to display some resistance towards pressure to violate norms, e.g. in cases of duress. While I may be excused for stealing a Monet under the threat of my mother being killed, I am not excused for doing so under the threat of being beaten with a wet noodle (Ferzan, 2011, 242).

for. She saved herself valuable time without neglecting her task. The best explanation for Mary's lack of blameworthiness is that her reliance on (2) was rationally permissible.[8]

In this section, I presented Gao's acceptance-based counterexample to KPR. In Accepting Science, Mary permissibly relied in her practical reasoning on a proposition that she merely accepts, but does not know. The task for the next section is to develop a knowledge-based account of the rationality of acceptance that explains this fact. After doing so, I will show that there is a natural extension of KPR that integrates this account and thereby avoids Gao's objection.

3 Knowledge and rational acceptance

My proposal begins with what initially might seem like surrender: I think cases like Accepting Science are counterexamples to KPR. However, I do not think that they threaten a knowledge-based conception of practical reasoning. The reason for this is that permissible reliance on accepted propositions is governed by a knowledge-based condition, or so I will argue. KPR only needs to be amended with this condition to make the correct predictions about Gao-style cases.

For the first step of the argument, I will motivate the view that knowledge plays a role for rational acceptance. Consider the following case:[9]

Neglectful Engineering

> Erik is an engineer who is tasked with designing a particle collider. Erik intends to succeed at the task, but hates doing difficult calculations. He accepts, without giving it much further thought, Newtonian Mechanics for the design process. However, only General Relativity would yield a sufficiently precise result for the purpose of designing a particle collider.

Erik is clearly criticisable: accepting Newtonian Mechanics does not serve the purpose of designing the particle collider. Instead, he should have relied on General Relativity, as only the latter is precise enough for this purpose. Importantly now, it is natural to criticise Erik in terms of knowledge. For instance, we can criticise Erik by saying, "You shouldn't have accepted Newtonian Mechanics for doing the calculation. You didn't know that the resulting calculations would be sufficiently precise."

[8] There are related discussions about whether it is permissible to rely on false models to facilitate in scientific understanding, about what role idealizations play in scientific explanations, and so on (for discussion, see Alexandrova, 2008; Reiss, 2013; Potochnik, 2017; Lawler, 2021). A related, theoretically minded notion of acceptance has also been discussed as the candidate attitude scientists have towards their theories (Maher, 1993; van Fraassen, 1980). I will leave these discussions aside because although Mary is a scientist, she is currently not engaged in providing a scientific explanation or in taking an attitude towards the scientific theory she favours. Rather, she is engaged in practical reasoning. Furthermore, as we will also see below, that Mary is a scientist is merely a contingent feature of instances of practical reasoning involving acceptance.

[9] Interestingly, a sketch of this case is suggested by Gao (2017, 1911) herself to make the point that acceptance is rationally assessable.

Knowledge talk does not only play a role in criticising cases of impermissible acceptance. It also allows us to defend proper acceptance-based reasoning. Suppose a colleague double-checks Mary's calculation and challenges here practical reasoning by complaining that Newtonian Mechanics is not true and that she should have relied only on what she knows to be true, General Relativity. Mary can defend herself by pointing out that she knows that Newtonian Mechanics is a good enough approximation for the purpose of calculating the fuel for the lunar module and that accepting Newtonian Mechanics saves her important time that is better spent on other tasks.

Cases can easily be multiplied: The attorney in the earlier-mentioned case accepts the proposition that her client is innocent. Doing so is permissible since she knows that relying on this proposition serves the purpose of pleading before a jury. A soldier in a war zone might doubt that he will make it through the day, but accepts the proposition that he does so to plan the day of fighting (Bratman, 1992, 8). This, again, is permissible, since he knows that for the purpose of planning and preparation, he needs to rely on the proposition that he will still be around to stick to these plans. A physician is ignorant of the nature of the disease he is treating, but accepts, based on his best judgements, that it is phthisis in order to be able to immediately start treatment (Kant A 824/B 852; Ullmann-Margalit & Margalit, 1992, 173). The physician knows that relying on the proposition that it is phthisis in order to immediately start treatment, instead of taking more time and trying to figure out determinately what disease the patient is suffering from, is his best bet to save the patient. Hence, he accepts this most likely option and accordingly starts the treatment regimen for phthisis.

These examples suggest that knowledge plays an essential role for the rationality of acceptance. The following condition captures this role:

Knowledge-acceptance condition (KA) One may accept a proposition ***p*** for a contextually specified purpose ***C*** iff one knows that relying on ***p*** in one's practical reasoning optimally serves ***C***.

KA tells us that rationally permissible acceptance presupposes a particular kind of instrumental knowledge: one needs to know that by relying on said proposition, the contextually specified purpose is optimally served.

In what follows, I will briefly elaborate KA before showing how it can be built into KPR. First, purposes: These can be moral, legal or prudential. For instance, one might accept a lie that one knows to be false if relying on the accepted proposition serves the moral purpose of protecting the liar from having to reveal a humiliating fact to a judgemental crowd. The lawyer accepts that her client is innocent because relying on this proposition serves a legal purpose, namely to plead before a jury. Mary's acceptance is concerned with a prudential purpose: in her calculation context, relying on Newtonian Mechanics serves the purpose of (accurate enough) expediency.[10]

[10] Some think there are normative conditions for the input of instrumental principles, e.g. that these inputs have to be morally appropriate or based on rational preferences. Readers inclined to accept such conditions are welcome to conceive of the purposes at play in KA as being so constrained and to plug in their favourite theory of spelling out the latter.

The second feature I want to elaborate concerns the contextually specification of purposes. It is commonly thought that acceptance differs from belief not only it its rationality conditions but also in its relation to context. Acceptance, but not belief, is thought to be context dependent in that it is intimately tied to one's practical deliberation in the relevant context (Stalnaker, 1984, 81–82; Cohen, 1992, 4; Bratman, 1992).[11] For instance, we might accept a lie to protect the liar for the purpose of the conversation, but will not accept the respective proposition for the purpose of talking to that person in private later. Likewise, the lawyer only accepts that her client is innocent in the context of court. At home, when talking to her partner, she will not accept this proposition any more and might even express her belief that her client is guilty. Finally, Mary only accepts Newtonian Mechanics in the context in which she has to settle the amount of fuel needed for the lunar module. If she discusses the true theory of physics over lunch with her colleagues, she clearly will not accept Newtonian Mechanics any more.

The third feature of KA worth elaborating concerns the demand that accepting serves the contextually specified purpose C optimally. This feature is somewhat vague, but not in a harmful way. It is supposed to rule out that KA licenses acceptance of some proposition p if one knows that relying on p barely serves C. Suppose Mary has the option to rely on a mathematically cumbersome variant of Newtonian Mechanics. Doing so is still quicker than using General Relativity, but does not seem permissible if she could use the normal version of Newtonian Mechanics instead. Still, we should resist the temptation to make the demand that C is served best by one's acceptance. For instance, while there might perhaps be a best way to save time in calculating the needed amount of fuel involves accepting another, highly specific, variant of Newtonian Mechanics, it is implausible to demand of Mary that her acceptance matches this ideal standard. The optimality condition is supposed to capture this middle-of-the-road approach. In Mary's case, the purpose of quickly doing the fuel calculation is optimally served if she strikes a reasonable balance between expediency and precision. This underwrites acceptance's characteristic of being a pragmatic attitude that gets us to act.

That acceptance is context sensitive and intimately tied to our practical affairs is reflected by KA. What purpose one's acceptance is concerned with is specified by the context in which one relies on the accepted proposition in practical reasoning. Thus, what kind of knowledge is necessary for rational acceptance may likewise change from context to context. For instance, the lawyer accepts that her client is innocent because she knows that relying on this proposition serves the purpose of pleading before a jury. In a different context, she need not know that relying on this proposition serves the purpose of finding role models for her children—because it does not.

I have argued that knowledge plays an essential role for rational acceptance. How does KA connect to cases like Accepting Science? Given that acceptance is intimately tied to our practical affairs, we can plausibly assume that we may rely on what we rationally accept. Given this assumption, KA makes the right predictions about

[11] Needless to say, some hold that belief is also context dependent. See, e.g. Clarke (2013) and Leitgeb (2014, 2017).

the discussed cases. In Accepting Science, Mary knows that relying on Newtonian Mechanics to calculate the needed amount of fuel for the lunar module optimally serves the purpose of expediency in her practical reasoning. She knows this because she is a trained physicist who has plenty of experience with calculations using both Newtonian Mechanics and General Relativity, how much time these respectively take and when differences in results are negligible. Hence, KA tells us that Mary's acceptance of Newtonian Mechanics is rational. If it is rational, she may rely on Newtonian Mechanics—the intuitively correct result. KA also explains our intuitions about Neglectful Engineering: Erik simply accepts Newtonian Mechanics to design the particle collider. However, he does not know that relying on Newtonian Mechanics serves the purpose of adequately designing the particle accelerator. He does not know that it yields sufficiently precise results because he has not given it any thought (he also cannot know this even if he had given it some thought since Newtonian Mechanics is not precise enough to serve this purpose). According to KA, it is hence not permissible for Erik to accept Newtonian Mechanics to design the particle accelerator. Thus, Erik may not rely on this proposition in his practical reasoning, which, again, is the intuitive verdict.

The other cases can likewise be explained. Bratman's soldier knows that relying on the proposition that he will still be alive later in the day serves the purpose of planning and preparation. If he had failed to know this, because (say) accepting that he will be alive later in the day would make him reckless, then it would not have been permissible to accept the proposition that he will still be alive later and rely on it in his practical reasoning. Kant's physician knows that relying on the proposition that the patient has phthisis is the optimal way to act in a way that potentially saves the patient's life. Hence, accepting and relying on this proposition is rational. Had the physician accepted instead that the patient had another illness, which also explains the symptoms but is incredibly rare, then the physician would have been criticisable for doing so, since choosing a treatment regimen for this rare illness is probably not the optimal way to serve the purpose of saving the patient's life.

How does KA connect to KPR? Given the already mentioned assumption that we may rely on what we rationally accept, KA clearly conflicts with KPR. KPR tells us that Mary may not rely on Newtonian Mechanics for the purpose of calculating the fuel for the lunar module, whereas KA, under the mentioned assumption, deems her reliance permissible. This clash can be avoided by amending KPR in a way that integrates KA. Here is my proposal:

KPR$^+$ It is permissible to rely on a proposition ***p*** in practical reasoning iff one either (1) knows that ***p*** or (2) one knows that relying on ***p*** optimally serves a contextually specified purpose.

KPR$^+$ tells us that there are two permissible ways to rely on a proposition in one's practical reasoning. The first way (as specified by (1)) can be considered the normative default, a default that is met if one knows the proposition one relies on. Exceptions to this default are granted if the acceptance of p is rational (the condition for which is specified by (2)). Acceptance of p is rational only if another piece of knowledge is in place, namely that relying on p optimally serves the contextually specified purpose.

At this point, one might wonder whether there is not a way to implement the observation that knowledge plays an essential role for rational acceptance that is compatible with KPR. For instance, one might think that in cases of seemingly permissible acceptance of some proposition *p*, we only rely on our knowledge that *p* optimally serves the contextually specified purpose, but not on *p* itself.[12] According to this alternative proposal, Mary is not relying on Newtonian Mechanics at all in her practical reasoning; she only relies on the proposition that Newtonian Mechanics optimally serves the purpose of expediency. If this alternative proposal was feasible, then no adaption of KPR would be needed.

While this alternative proposal seems initially attractive, I think there are reasons to prefer my KPR$^+$-based proposal. First, the alternative proposal has to deny that the case is correctly described by claiming that Mary does not rely on Newtonian Mechanics in her practical reasoning. However, I expect most to have the intuition that Mary does in fact rely on Newtonian Mechanics (see also fn. 4). Furthermore, there is a second, related intuition that Mary's reliance on Newtonian Mechanics is rationally permissible. This is best explained, as I argued above, by proposing that Mary's reliance on Newtonian Mechanics is indeed permissible, not merely excused. The alternative proposal neither accommodates the intuition that Mary relies on *p* nor that it is permissible for her to do so. In the absence of an error theory to explain away these intuitions, this is a significant theoretical cost. By contrast, it is a virtue of KPR$^+$ that it takes these intuitions at face value and accommodates them straightforwardly.

A second reason to favour KPR$^+$ over the alternative proposal concerns certain repeated instances of practical reasoning. Suppose Mary has to perform various pieces of practical reasoning that all aim at expediency and involve Newtonian Mechanics (perhaps she has to do many different calculations related to fuelling a few differently sized lunar modules). According to KPR$^+$, she can initially rely on her knowledge that using Newtonian Mechanics optimally serves the purposes of expediency to license a continued reliance on Newtonian Mechanics in all of these instances of practical reasoning. By contrast, the alternative proposal's construal of this case looks less plausible. According to the alternative proposal, Mary has to rely on the proposition that Newtonian Mechanics optimally serves the purpose of expediency in all of the repeated instances of practical reasoning. However, given the concern that relying on propositions like that Newtonian Mechanics optimally serves her purpose will cognitively be more demanding than simply reasoning with Newtonian Mechanics (see fn. 4), it would be surprising if it was permissible for Mary to repeatedly reason like this, given that her purpose is expediency. I think these considerations show that opting for KPR$^+$ over the alternative proposal is preferable, despite the latter's initial attractiveness.[13]

[12] I am thankful to an anonymous referee for inviting me to discuss this alternative proposal.

[13] A further difference between KPR and KPR$^+$ worth noting is that compliance with condition (2) of KPR$^+$ seems to require the concepts of reliance and purposes, which might prevent animals and small children from satisfying said condition. I do not think that this should worry proponents of KPR$^+$. First, as the various presented examples of rational acceptance illustrate, the kind of practical deliberation and planning that is needed for acceptance indeed involves some sophistication and might presuppose a competency with the mentioned concepts. Second, more generally, KPR$^+$ (like KPR) is a norm of practical

KPR$^+$ is my proposed knowledge-based view of practical reasoning that both explains the initial data that motivated KPR and acceptance-based cases like Accepting Science. While KPR$^+$ is a disjunctive condition, it is unified by the overarching normative role that knowledge plays for its disjuncts. If my proposal is correct, then any kind of permissible reliance can only take place within the realm of one's knowledge.[14]

In this section, I have developed a knowledge-based account of the rationality of acceptance and showed that there is a natural extension of KPR that integrates this account. The resulting proposal, KPR$^+$, makes the intuitively correct predictions about acceptance-based cases of reliance, including Accepting Science, and thereby not only avoids Gao's objection, but also has the advantage of an increase in explanatory power. In the next section, I will consider objections to my proposal. I will show that they can be answered by using theoretical tools that are already well established and that proponents of KPR are committed to using anyway.

4 Objections to KPR$^+$

In this section, I will consider objections to my proposal.

Let us start with the worry that KPR$^+$ seems to license reliance on contradictory propositions. Suppose you know that p. Suppose also that accepting $\sim p$ (or a proposition that entails $\sim p$) would serve some contextually specified purpose and that you know this. In such a case, KPR$^+$ licenses reliance on contradictory propositions. However, does not this lead to incompatible practical conclusions with undesirable consequences, such as confusion about what to do or erratic behaviour?

Footnote 13 (continued)
rationality that is intimately connected to our practices of praise, criticism and blame. Small children and animals are typically exempt from being assessed along these lines because they do not (yet, or not yet fully) meet the preconditions of being a rational agent. Since we can presume competency with the mentioned concepts among rational agents, KPR and KPR$^+$ do not seem to (relevantly) differ in who plausibly can satisfy them. Of course, all of this is compatible with animals behaving rationally in a different sense, such as a Darwinian sense of maximising fitness. See Okasha (2018, ch. 7) for discussion.

[14] How is KPR$^+$ linked to rational action? According to one conception of knowledge-based decision theory, we should maximise expected utility, conditional on what we may rely on, i.e. conditional on one's knowledge (see, e.g. Fantl and McGrath (2002) and Schulz (2017) for a sophisticated version of this kind of knowledge-based decision theory). To serve as an addition to KPR$^+$, this conception of knowledge-based decision theory needs to be slightly adapted. This becomes clear once we consider other decisions Mary might face. Suppose that besides having to decide (say) what number to report to the personnel fuelling the lunar module, she also have to decide what theory of physics she wants her students to study. One might now worry that it might maximise expected utility for Mary, conditional on what she permissibly accepts (i.e. Newtonian Mechanics), to tell her students to not bother learning General Relativity. Of course, this cannot be right. Fortunately, KPR$^+$ and this conception of knowledge-based decision theory can be made compatible in straightforward fashion: Since the permissibility of reliance on accepted propositions is restricted to those decisions in which this reliance optimally serves a contextually specified purpose, we should likewise restrict the impact of accepted propositions on what is rational to do to these decisions. So, when it comes to Mary decision about what to tell her students to study, the set of propositions, conditional on which we determine which of her actions maximises expected utility, plausibly does not include Newtonian Mechanics because relying on the latter does not optimally serve any purpose relative to this decision. I am grateful to an anonymous referee for pressing me on this.

I do not think that this worry gets off the ground: either the undesirable consequences do not arise or the worry is self-defeating. Suppose Mary does not only calculate the fuel by relying on Newtonian Mechanics, but also calculates the fuel by relying on General Relativity, leading to incompatible conclusions about what number to report to the fuelling personnel. Does not that lead to the mentioned undesirable consequences? It is worth noting two things in response. First, given that Mary is concerned with saving time in her calculation, it would be very surprising if she would perform both pieces of practical reasoning in the first place. Hence, we can expect that the mentioned consequences will not arise in normal circumstances. Second, if Mary indeed does both calculations, it is plausible that Mary fails to satisfy condition (2) of KPR^{+}. She fails to know that accepting Newtonian Mechanics serves the contextually specified purpose optimally, because her acceptance of Newtonian Mechanics clearly did not lead to time savings in calculating the fuel. Hence, in cases in which Mary actually draws incompatible practical conclusions, followed by the mentioned undesirable consequences, her practical reasoning is criticisable because her reliance on Newtonian Mechanics plausibly violated condition (2) of KPR^{+}. Hence, the worry does not get off the ground: either the undesirable consequences do not arise or the worry is self-defeating because accepting the respective proposition was not permissible according to KPR^{+}.[15]

For a second objection, consider the following case:

Audience Inflation

> Bob is organising a workshop and wonders how many handouts he has to print for the next talk. He scans the room, and while he did not count every person in the audience, he makes a reasonable estimate and comes to believe that there are no more than 25 people in the audience. Including some margin of error and accounting for some people that might currently be in the rest room, Bob accepts that 30 handouts are needed and relies on this proposition in his practical reasoning. Unbeknownst to Bob, a sociology professor currently conducts an ethnographic study on philosophers and picked the next talk for his observations. He is accompanied by a group of students which he tells to just blend into the workshop. In the end, the audience is more than 60 people and the printed handouts are not nearly enough.

Bob has a reasonable but false belief that accepting that 30 handouts are needed optimally serves the purpose of having enough handouts for the talk. However, he is not blameworthy for relying on the accepted proposition that 30 handouts are needed. Some might take this to suggest that Bob has permissibly relied on what he accepts. However, since Bob neither knows that 30 handouts are needed (because more are needed), nor that accepting the proposition in question serves the purpose

[15] As an anonymous referee points out, there might be scenarios in which both relying on one's knowledge that p and relying on a false proposition q might serves some contextually specified purpose equally well. In this kind of case, I am happy to allow that the subject might rely on either p or q in her practical reasoning (although not both, or otherwise self-defeat for serving the contextually specified purpose looms again).

of having enough handouts (because it does not), his reliance is not permissible according to KPR$^+$. If our intuitions about blameworthiness exclusively track permissibility, then KPR$^+$ is false.

Audience Inflation is structurally analogous to various cases that have been deemed counterexamples to KPR and knowledge norms more generally. These cases involve reliance on justified false beliefs (or Gettierised beliefs) that is not intuitively blameworthy. Opponents of KPR have suggested that these cases are counterexamples to KPR. In response, proponents of knowledge norms have pointed to the distinction between being justified and being excused to rebut this objection (DeRose, 2002; Hawthorne & Stanley, 2008; Kelp & Simion, 2017; Boult, 2017, 2019; Heil, 2022; Williamson, forthcoming; Littlejohn, forthcoming).[16]

There is a large debate about whether this response succeeds. Opponents of KPR (and knowledge norms in general) have challenged the appeal to excuses by pointing out that it is ad hoc without a worked-out accounts of excuse (see, e.g. Gerken, 2011). Proponents of knowledge norms have risen up to this challenge by developing such accounts. To take the already-mentioned dispositional account of Williamson, a violation of KPR$^+$ is excused if the subject does what someone who is disposed to comply with KPR$^+$ would do in their circumstances. A subject who is disposed to comply with KPR$^+$ would, besides relying on what they take to be known, rely on accepted propositions in their practical reasoning if they have excellent evidence for believing that accepting these propositions serve the associated purpose, if they reliably formed such a belief, and so on. Bob has excellent evidence for thinking that accepting that 30 handouts are needed serves the purpose of having enough handouts for the talk. The unannounced doubling of the audience size is unusual to say the least and not something we have to rule out in normal circumstances. Hence, Bob displays the due epistemic diligence we expect of someone who is disposed to know whether accepting a proposition serves some associated purpose and who is thus disposed to comply with KPR$^+$. Williamson's excuse account gives us the needed result: Bob is blameless because he is excused in his violation of KPR$^+$.[17]

A final objection can be made based on the following case:

One-shot Parent

Rob has a fraught relationship with his son Rob Jr., who has started taking hard drugs and was recently caught stealing. As Rob drives to pick up his son from the police station, he feels angry, embarrassed and frustrated. Yet, Rob knows that expressing these feelings to Rob Jr. might ultimately push the latter further away from him and exacerbate his son's self-destructive behaviour. So, it is pertinent that Rob remains calm when meeting his son. For the purpose of the upcoming conversation, Rob accepts that the behaviour of his son is a cry for help and not a

[16] Others have suggested that in cases of reliance on a justified false belief that p, we instead rely on knowledge of seemings that p. For to my mind fatal objections to this view, see Prado Salas et al. (2018), Lasonen-Aarnio (2019) and Littlejohn (2019).

[17] The epistemic account mentioned in fn. 6 also gives us this result.

reflection of ill will. Rob knows, but not with absolute certainty, that accepting this proposition is the best way to face Rob Jr. calmly and get through to him. Much is at stake. If Rob does not empathetically reach out to Rob Jr., he might lose contact indefinitely.

One-shot Parent is a high-stakes case. Some now might object to KPR$^+$ that confident, but not certain, knowledge is not good enough to license Rob's reliance on what he accepts. Rather, only certainty that the acceptance of the relevant proposition allows Rob to remain calm will make it permissible to accept this proposition. If he does not know for sure that accepting that Rob Jr.'s behaviour is a cry for help will allow him to remain calm, then he should choose a different course of action (such as asking a relative to talk to Rob Jr.). If this is right, then KPR$^+$ is false, as knowledge does not seem sufficient for the permissibility of reliance on accepted propositions.

This kind of objection is again analogous to familiar objections to KPR, this time involving high-stakes cases (Anderson, 2015; Brown, 2008; Reed, 2010). For instance, in Reed's (2010) Jellybean case, you are asked whether you want to bet on your confident but not certain knowledge that Caesar was born in 100 B.C. If Caesar was indeed born in 100 B.C., you win a Jellybean, if not, you receive an extremely painful electric shock. The worry now is that betting is not rational, even though you know that Caesar was born in 100 B.C.

Again, responses have been plenty (Beddor, 2020; Fantl & McGrath, 2002, 2007, 2009; Schulz, 2017, 2021; Williamson, 2005). According to one well-worked-out proposal, if stakes are high, we may only rely on a particularly secure subset of our knowledge, be it, e.g. our higher-order knowledge (Schulz, 2017; Williamson, 2005), knowledge of high strength (Schulz, 2021) or knowledge that is epistemically certain (Beddor, 2020). Relative to this scarcer and more secure knowledge, different practical conclusions are adequate. Perhaps Rob lacks (say) third-order knowledge that accepting the respective proposition will allow him to stay calm, making it rational to let a relative do the talking. Similarly, perhaps the proposition that Caesar was born in 100 B.C. is only highly likely, given one's (say) fourth-order knowledge, making not betting rational. One-shot Parent can be treated like more familiar high-stakes cases, for which proponents of KPR have already developed sophisticated responses.[18,19]

The defence of KPR$^+$, like that of KPR, hinges on the success of these responses. If they fail, then a knowledge-based view of practical reasoning is infeasible. If they succeed, they not only allow us to defend KPR against objections, but similarly allow us to defend KPR$^+$ against like-minded objections. Thus, a defence of KPR$^+$ against these objections does not increase the overall attack surface of a knowledge-based view of practical reasoning and does not incur any further theoretical commitments on behalf of proponents of a knowledge-based picture (at least not over and above the "$^+$"-content of KPR$^+$). This, to my mind, suggests that KPR$^+$ is indeed a very natural way to extend KPR.

[18] It is worth pointing out that there are putative counterexamples to the sufficiency direction of KPR that do not require that stakes are high (Roeber, 2018). Thus, further resources might be needed to deal with these kinds of cases.

[19] My favoured solution allows us to rely on our ordinary knowledge in a fallibilist way (Heil, MS). Rob can rely on his knowledge in a fallibilist way, i.e. while showing a sensibility to the fact that he might not know after all, and act accordingly.

5 Conclusion

In this paper, I have shown that cases like Accepting Science provide a substantial but constructive challenge to proponents of KPR. I argued that knowledge plays an essential role for the rationality of acceptance, as captured by KA. The latter says that we may accept a proposition iff we know that doing so optimally serves some contextually specified purpose. I then proposed to integrate KA into KPR, yielding KPR^+, which tells us that we may rely on a proposition in practical reasoning iff we either know it or we know that relying on it optimally serves a certain contextually specified purpose. KPR^+ makes the correct predictions, not only about the initial cases that motivated KPR, but also about cases involving reliance on accepted propositions, including Accepting Science. For both kinds of cases, knowledge is the mark of permissible reliance. KPR^+ thus constitutes a unified and explanatorily powerful view of practical reasoning without being susceptible to Gao's objection. Furthermore, KPR^+ can be defended against a variety of other objections without asking for any further theoretical commitments of proponents of knowledge-based views of practical reasoning. Hence, the latter should not hesitate to embrace it.

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