

Weak Belief and Inquiry

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Can we rationally believe things that we have low credence in? The traditional answer in epistemology has been that we cannot. Alex Worsnip for example suggests that it's incoherent to believe P while having a credence of below 0.5 in P . The reason is that, he points out, "at the point where one has a credence lower than 0.5 in a proposition, one judges the proposition more likely to be false than true. This attitude, I claim, is rationally incompatible with belief. Part of what it is to believe something is to take it to be true—where the relevant contrast is with its being false. It is incoherent both to take something to be true and to judge it to be more likely false than true." (Worsnip (2016), p. 557).

On the other hand, several recent authors have claimed that belief is "weak", i.e. that it can be rational to believe some proposition P while having a credence of below 0.5 in P .¹ They motivate this idea by considering cases like the following:

Horse Race: Suppose there is a horse race between three horses: A, B, C. You think the chances of A's winning are roughly 45%, the chances of B and C winning are 28% or 27% respectively. (Hawthorne, Rothschild and Spectre (2016), p. 7).

Asthma: Suppose I'm a doctor, Kim is seriously ill, and she has a highly unusual and complicated collection of symptoms. Her symptoms are so bizarre that I'm literally considering 1,000 mutually exclusive causes.....As my investigation proceeds, the evidence points increasingly towards a very rare form of asthma...As a result I wind up extremely confident that condition A isn't the cause, extremely confident that condition B isn't the cause, and so on, for every alternative to asthma on my list....As a result

¹ For authors who adopt such a view, see for example Dorst (2019), Dorst and Mandelkern (forthcoming), Hawthorne, Rothschild and Spectre (2016), Holguin (forthcoming) and Rothschild (2020).

(let's suppose), I wind up with roughly credence 0.4 in the proposition that Kim has asthma, and I wind up with a flat credence distribution across the other 999 conditions, so that, for each of them, I have roughly credence 0.0006 that the condition in question is the cause. (See Roeber (2020), p. 28).

It seems that when people are asked what they believe in cases like this, they might well answer things like “I think horse A will win”, “I believe horse A will win” or “I believe Kim has asthma”, even if their credence in such propositions is below 0.5.² Moreover, it's not obvious that there is anything wrong with agents reporting such beliefs. In fact, Hawthorne, Rothschild and Spectre (2016) and Spectre (2020) take the plausibility of such belief reports to suggest that “merely thinking that a proposition is likely may entitle you to believe the proposition” (Hawthorne, Rothschild and Spectre (2016), p. 2) where in some cases (like the ones above) we might think a proposition is likely even if we have a (relatively) low credence in it — as long as that proposition is more likely than its competitors. In this paper I want to examine a puzzle that arises if we take such belief reports at face value. The puzzle is this: How could such beliefs be rational if believing some proposition P is taking P to be true? What kind of account of belief could vindicate the idea that it can be rational to believe something (i.e. taking P to be true) while having a credence in that proposition that is below 0.5 (which suggests that P is more likely false than true)?

The main explanation of the phenomenon of weak belief that has emerged in the recent literature is to hold that beliefs are essentially our best guess as to the answer of a particular question. The idea behind this view is that an agent who reports things like “I think horse A will win” offers her best guess as to the answer to a particular question. On this thought, advocated in one form or another by Holguin (forthcoming), Dorst (2019) and Dorst and Mandelkern (forthcoming.), I can rationally guess that horse A will

² See for example a survey done by Kevin Dorst, where 18.4% of the 217 respondents thought candidate A would win the republican primary, even though their evidence only gave candidate A a 45% chance of winning. (https://www.kevindorst.com/stranger_apologies/the-conjunction-fallacy-take-a-guess)

win in cases like **Horse Race**, as long as the possibility that horse A will win is more likely than the other alternative answers to the question of which horse will win. Since it is more likely that horse A will win, I can rationally guess and believe that horse A will win. Call this picture of belief the *guessing picture*.³

While the guessing picture can explain how belief might be weak, I will argue that this picture nevertheless has substantial problems. For on such a view, beliefs can't play many of the roles that they have been thought to play in the recent literature. It has been thought, for example, that beliefs play an important role in the formation of reactive attitudes⁴, that beliefs form our picture of the world⁵ and that we can rely on a proposition that we believe in our reasoning.⁶ If we accept the guessing picture, then we can explain why belief is weak but we lose the ability to explain many of the other roles that beliefs ought to play. This is a substantial drawback of such views, for it raises the following question: If beliefs don't play the distinctive roles in our mental economy that they are thought to play, then what is the point of having beliefs at all in addition to credences? And why should we waste our time theorizing about such a mental state that plays no important roles?

In this paper I thus want to propose a new answer to the question of how beliefs can be weak that is compatible with the traditional roles that beliefs ought to play. On my picture beliefs aren't merely our best guesses in response to a question, but rather answers that we take to settle the question. This view shares with the guessing picture the idea that an answer can settle a question so long as it is more likely than the

³ An interesting alternative view of belief that allows something like weak belief is the agentic notion of belief as spelled out in Bovens (1999). Bovens considers an agent who when asked whether she believes that there's a witch in the woods answers "I believe enough not to go there." Bovens points out that "Since my actions are indistinguishable from someone who is convinced that there is a witch living in the woods (and, like me, fears witchcraft), I am said to believe just the same that there is a witch living in the woods." (Bovens (1999), p.28) And this might be so, even though one thinks it is more likely than not that there is no witch living in the woods.

⁴ See for example Buchak (2014)

⁵ See for example Foley (2009), Kaplan (1996) and Lord (2020)

⁶ See for example Weatherson (2005), Fantl and McGrath (2002) and Ross and Schroeder (2014). See also Jackson (2019) for a list of similar functions that outright belief fulfills but credences do not.

alternatives (even if my credence in the answer overall is still very low). As it turns out, however, on this view beliefs can still play many of the roles that they are usually thought to play.

The paper will proceed as follows: In Section 1 I will outline the guessing picture of weak belief and mention some of its shortcomings. In Section 2 I want to offer my rival explanation. On this picture, believing is closely tied to inquiring and so not all guesses amount to beliefs - only the guesses that settle questions. Sections 3 and 4 address additional questions that my account raises and help to flesh out the account in more detail.

Section 1: Believing and guessing

One view of belief according to which it can be rational to believe that horse A will win, or that Kim has asthma, is a view on which believing is closely related to guessing. Dorst, Mandelkern and Holguin all have (tentatively) suggested such a view of belief. Dorst (2019) for example points out that “Your beliefs are your best guesses – your best shots at the truth – in response to the epistemic priorities of your context” (Dorst (2019), p. 18). Holguin (forthcoming) argues that to believe that P “is to guess that p is the answer to the question at hand” (Hoguin (forthcoming), p.3).⁷ And Dorst and Mandelkern build on this idea in the following way: “We’ll argue that our account of guessing offers a theory of belief...In particular, Holguin (2020) argues that your beliefs are your best guesses....Our account of guessing augments this account of belief by showing how to explain key structural features of guesses, and hence of

⁷ Strictly speaking, Holguin defends a theory of rational thinking according to which thinking that P is to guess that P is the answer to the question at hand. But he also holds that the mental states picked out by words like “I think” and “I believe” are the same, and so we can interpret his theory of thinking as a theory of belief. It is clear from the quote in the next paragraph that Dorst and Mandelkern (forthcoming) interpret Holguin in the same way.

beliefs.” (Dorst and Mandelkern (ms), p. 2)⁸ This guessing picture is largely motivated by considering cases like **Horse Race** where it seems that an agent can rationally report things like “I believe horse A will win.” and observing that an agent who reports such a belief is essentially offering her best guess as to which horse will win.

How does this idea that your beliefs are your best guesses as to the answer to certain questions help explain why it might be rational to believe something that we have low credence in? The answer: because on the view of beliefs as guesses that Dorst, Mandelkern and Holguin endorse, what we believe is *question-relative*. In other words, believing is not simply a two-place relation between an agent S and a proposition P, but rather a three-place relation between S, P and a question Q, since our belief that P represents our best guess as to the answer to a specific question Q. This fact can help us explain why it can make sense for a rational agent to believe that horse A will win or that Kim has Asthma, even though her credence in those propositions is below 0.5. For consider why weak beliefs might seem irrational: if one has a weak belief that P, that means that one’s evidence supports not-P more than P. Thus there is a worry that one’s belief that P is not *sufficiently supported* by one’s evidence.

But by recognizing that beliefs are question-relative we can see that the above reasoning won’t apply in all cases where I have a weak belief that P. Consider the case where my belief that horse A will win constitutes my best guess as to the answer to the question “Which horse will win?” Let’s further suppose that a relevant question Q is individuated by the different possibilities that would count as answers to Q. In this case, the question of which horse will win has the three different answer possibilities

⁸ One might ask how suspension of judgment fits into this picture of beliefs as guesses. One possible answer is that we may suspend judgement on P when we fail to offer a guess. (Or perhaps we are also suspending judgement if we offer the maximally unspecific guess that’s just a disjunction of the different possible answers.) However the beliefs as guessing picture still has some trouble accounting for suspension of judgement since there are presumably some cases where I suspend judgement on a question but (if pressed) could still offer a guess as to the possible answer. Consider for example the following case: Suppose relative to question Q there are two answers P and R such that P is just a bit more likely (e.g. you have a credence of 0.51 in P while only having a credence of 0.49 in R). If forced you might be willing to offer a guess and say that P is the answer. But it seems unlikely that this guess amounts to a belief that P.

that horse A, horse B or horse C will win. In this case we might well argue that the proposition “Horse A will win” is actually sufficiently supported by one’s evidence, since one’s evidence supports that answer over and above all the other answers that I’m considering as possible answers to Q. Thus in this case an agent can rationally guess that horse A will win. It’s true that one’s evidence technically supports the proposition that horse A will *not* win even more. However the important insight is that relative to the question of which horse will win, we are not considering the claim that horse A will lose as a possible answer! If questions are individuated by their possible answers and the answers to the question of which horse will win are simply horse A, horse B and horse C, then as soon as I’m considering a different answer (that horse A will not win), I’m changing the relevant question. For example, the possibilities “Horse A will win” and “Horse A will not win” individuate the question “Will horse A win?” But relative to *that* question it’s not rational for me to guess that horse A will win and so relative to that question, it’s also not rational for me to have that belief. But relative to the question “Which horse will win?” I can rationally have that belief.

This line of thought also helps us respond to Worsnip’s argument against weak belief from the introduction. Recall that Worsnip argues that an agent who believes P on weak evidence has incoherent attitudes, because “Part of what it is to believe something is to take it to be true—where the relevant contrast is with its being false. It is incoherent both to take something to be true and to judge it to be more likely false than true.” (Worsnip (2016), p. 557). If we hold that beliefs are question-relative, however, then believing something to be true need *not* involve a contrast with its being false — this contrast is involved *only* when we consider the question of whether P where we consider the two answers P and not-P. It’s true that relative to the question of whether P, it’s irrational to guess P if not-P is more likely. But relative to questions like which horse will win, the relevant contrast is with the *other possible horses*. And since I’m just comparing the probability of horse A’s winning with the probability of other horses winning, I never judge that it’s more likely to be false that horse A will win than not.

The same kind of reasoning can also be used to show that weak belief need not license the utterance of Moore-paradoxical sentences like “I believe P but it’s more likely that not-P.” The idea here is the same as before: It’s rational to believe P while having credence of less than 0.5 in P only relative to a question Q of which not-P is not also a relevant answer. But since the Moore-paradoxical sentence above considers both P and not-P, this suggests that we are evaluating its truth relative to a question Q of which both of those possibilities are relevant answers. But relative to this question (which is most naturally suggested by the context), it would not be rational for an agent to believe P while having low credence in it.⁹

The upshot of the story is thus this: if beliefs are question-relative, then it can make sense to guess or believe an answer that you have a credence in that is below 0.5 (since the possibility that horse A will not win is not a relevant possibility relative to all questions). But while the guessing picture of belief according to which beliefs are question-relative has the tools to explain why beliefs might be weak, it has the problem that it is incompatible with many of the other roles that beliefs are said to play.

In this paper I will concentrate on three main roles that beliefs have been generally thought to play in the literature. Those three roles are the following:

(i) *Beliefs license reactive attitudes*. Buchak (2014) argues that beliefs play an important role for the formation of reactive attitudes. In particular she argues that we ought to have a particular reactive attitude (e.g. blame) towards an agent iff we have the belief that they committed the relevant action that we base our reactive attitude on. Buchak argues that we can see that beliefs rather than, say, high credences ought to play this role when we consider cases of statistical evidence. Suppose I know (given the

⁹ The guessing picture might license Moore-paradoxical sentences in situations where one changes the relevant question mid-utterance. Perhaps one can rationally say “I believe horse A will win, even though it’s more likely that it will lose” in a context where this sentence means: “I believe horse A will win (when I consider the question of which of the horses will win), even though I think it’s more likely that horse A will lose (when I consider the question of whether horse A is really going to win or not).” However once we clarify that the relevant question changes mid-utterance, it’s no longer clear whether such a sentence is really Moore-paradoxical.

relevant background conditions) that there is a 90% chance that Jake stole my phone rather than Anna and suppose that on the basis of that fact, I have a high credence in the claim that Jake took it but I haven't yet formed a belief. Buchak argues that it would be inappropriate for me to blame Jake for taking my phone on the basis of my high credence alone.

(ii) *Beliefs form our picture of the world.* Foley, Kaplan and Lord all argue that beliefs provide us with a picture of the world. Kaplan for example argues "Where P is any hypothesis, you believe P iff P is entailed by your global theory of the world." (Kaplan (2009), p. 138) while Lord argues that "belief and disbelief are both ways to *determine* whether p within one's [intellectual] outlook" (Lord (2020), p. 3). Foley writes

We commonly need others to provide us with a sharply differentiated picture of the situation as they see it.....Taking stands is an inescapable part of our intellectual lives, and the epistemology of belief is the study of such stands. The range of options is restricted to just three: to say yes to a proposition, to say no to it, or to remain neutral on it. (Foley (2009), p. 46)

The common idea behind these views is the intuitive one that beliefs rather than credences are the attitudes that provide us with our picture of how things stand in the world. If all we had were credences we might have opinions about how likely certain things are to be the case, but we would never have any opinions about whether such and such actually is the case or not.

(iii) *Beliefs license relying on a particular proposition.* Another common idea is that believing some proposition licenses (at least to some degree) our relying on that proposition in our actions or reasoning. Ross and Schroeder, for example, write:

In virtue of our limited cognitive resources, we cannot avoid the heuristic of treating as true propositions about which we are uncertain. Nor can we, in every instance, first reason about the employment of this heuristic

before employing it.....we must have automatic dispositions to treat some uncertain propositions as true in our reasoning.....part of the functional role of belief is that believing that p defeasibly disposes the believer to treat p as true in her reasoning. (Ross and Schroeder (2014), p. 267)

For Ross and Schroeder, the fact that our cognitive resources are limited requires us to rely on our beliefs in our reasoning at least in certain circumstances (and since there is nothing we can do about our cognitively limited resources, such reliance on our beliefs is presumably rationally allowed at least in certain circumstances). A similar view can be found in Fantl and McGrath (2002), Weatherson (2005), Ganson (2008) or Staffel (2019).¹⁰ Thus part of the role of having beliefs is that they can simplify our reasoning by allowing us to rely on them in our reasoning or actions.

All of these three roles have been taken as central to the notion of what beliefs are. But the picture of beliefs as our best guesses to questions has two shortcomings in explaining how beliefs could fill these roles: (i) on the guessing picture, beliefs are question-relative and so there is no single fact of the matter about what you believe at a particular time; there are only facts about what you believe relative to different questions, and (ii) if beliefs are merely our guesses as to the answer to different questions— not to mention guesses that could be very weak — then beliefs seem to be the wrong kind of thing to play these roles. Let me explain these two points in more detail. Consider the following case that's similar to **Horse Race**:

Stolen iPhone: Suppose you have a credence of 0.45 that Jake stole your phone, and a credence of 0.28 and 0.27 that Anna or Peter stole your phone, respectively.

¹⁰ These authors differ among themselves about precisely how we should understand the idea that beliefs license relying on P in one's actions and reasoning. In Section 4 I will clarify more fully in what way believing P can be said to license reliance on P.

This situation illustrates nicely the two problems that arise for the “beliefs are guesses” picture. First there is the worry about question-relativity: In the case above there is no simple fact of the matter whether you *believe* that Jake stole the phone or not. You believe that Jake stole the phone relative to the question “Who stole your phone?” (where the answers are “Jake”, “Anna” and “Peter” with “Jake stole the phone” being the most likely possibility), but not relative to the question “Did Jake steal your phone?” (where the answers are “Jake did steal the phone” and “Jake didn’t steal the phone.”) The fact that there is no determined fact about what you believe shows that your beliefs can’t play the three roles I’ve outlined above. For example, this case shows that beliefs can’t really be the mental state that licenses the forming of reactive attitudes. For if we believe both that Jake stole the phone and Jake didn’t steal the phone (just relative to different questions), then there doesn’t seem to be a clear fact of the matter whether I can rationally blame Jake or not. But this seems implausible. It likewise seems implausible to say that whether I ought to blame Jake or not is question-relative in the same way as beliefs, i.e. that I ought to blame Jake relative to considering one question but not relative to the other. When I blame you I take an emotional attitude towards you that aims (among other things) to punish you for a wrong that you did or perhaps is aimed at getting you to apologize. But it is not plausible that this kind of punishment is relative to different questions. (For if it were, it wouldn’t be clear how you ought to react to my question-relative reactive attitude: Should you feel bad and apologize, or not?)

The guessing picture also fails to explain how beliefs could form our picture of the world. After all there is a fact of the matter as to whether Jake stole the phone or not — but on the guessing picture (where I believe Jake stole the phone relative to one question but not the other) we fail to take a definitive stance on the matter. If guesses were to form our outlook on the world, then how we think the world is would be different relative to different questions that I consider — but that is just another way to say that I don’t really take a stand on the matter at all, and so don’t have any particular outlook or picture of the world regarding how things are with respect to Jake and the iPhone.

Lastly on the guessing picture, beliefs also can't be the kind of thing that you can rely on in your reasoning or actions. It would be irrational for me to simultaneously rely on both propositions "Jake stole the phone" and "Jake didn't steal the phone" in my reasoning, for example. Thus I can't (and shouldn't) rely on everything that I believe on the guessing picture.¹¹

Thus on the guessing-picture, it is difficult for beliefs to play the traditional roles of belief because there is often no determinate fact of the matter as to what you believe simpliciter — instead what you believe is simply relative to different questions. Perhaps a defender of the guessing picture could ameliorate these problems somewhat by holding that there is (in a given context) a fact of the matter about what you believe since the relevant question with respect to which we evaluate your beliefs is the question that is made salient by the context you are in.¹² This modified view might avoid some of the problems above (e.g. I might be able to rely on my belief that P without also relying on my belief that not-P if I believe P relative to the question that is salient in the context I find myself in). However, this view would still face the problem that one's guesses are simply the wrong kinds of things that (i) license the forming of reactive attitudes, (ii) provide your picture of the world, and (iii) are what you can rely on in your reasoning. The picture of beliefs as guesses can explain why it might be rational to believe that Jake stole the phone since this seems to have the feature of a rational guess — i.e. it seems fine to offer that as your answer to the question "Who do you think took the phone?" But it does not seem right to say that I should always rely on such guesses in my reasoning, or blame others on the basis of them. And not all of my guesses provide me with a picture of the world.

We can see an example of a guess that doesn't seem to fulfill these roles if we consider a version of **iPhone** where you'll be able to watch a surveillance video that

¹¹ Perhaps the guessing picture of belief could avoid this problem by holding that the context one finds oneself in fixes a particular question and that in context X which fixes question Q I can rely on my belief that P (though in a different context I might not be able to rely on P). But there still remains the problem mentioned below that one's guesses seem to be the wrong kind of thing for one to rely on.

¹² For such a version of question-relativity see also Schaffer (2007).

shows you very clearly who exactly it is that stole your phone if you just wait 5 minutes. It still seems that you can offer a guess as to who took the phone (i.e. Jake) but it does not seem rational for you to blame Jake on the basis of this premature guess, or to say that such a guess amounts to your taking a stand on the matter and thus forms a part of your picture of the world, or that you should rely on it. You should wait for more evidence first before you do any of those things. This is thus a case in which your guess is not enough to fulfill the three roles outlined for belief.¹³

That on the guessing picture, beliefs don't fulfill the traditional roles beliefs are thought to play is freely acknowledged by Dorst and Holguin. Dorst, for example, discusses a particular objection to his view and replies to it in this way:

Objection: Beliefs play all sorts of theoretical roles that high credence can't. By ruling out possibilities, they simplify and guide our activities of assertion, reasoning and inquiry.

Reply: Do they? My main claim is about beliefs — that is, about the attitude that the word “belief” refers to in the natural language we're using to have this debate. The picture that emerges: you believe whatever you're sufficiently confident in — and in some contexts ‘sufficient’ need not be very confident at all. Your beliefs are your best guesses (in context). So natural-language and epistemic utility theory suggest that belief is not, after all, what fills these theoretical roles. (Dorst, p. 26)

And similarly Holguin writes:

[T]his would mean that belief cannot play many of the theoretical roles with which philosophers have associated it.....belief is not the attitude we

¹³ This case also casts doubt on the view that one's guesses amount to belief more generally, since in this case it also seems irrational for you to form a belief that Jake did it — what you should do is rather to suspend judgement. (This is also the route taken by Worsnip's (forthcoming) and Schroeder's (2012) discussion of cases where more evidence is forthcoming.) But even though it seems that you ought to suspend judgement in this case, there doesn't seem to be anything wrong with you offering a guess. On the problem of guessing while suspending, see also footnote 62.

hold towards the propositions we rely on in theoretical or practical reasoning; nor is it the attitude we hold toward the propositions we are willing to assert; nor is it even the attitude we hold towards propositions that we find highly likely to be true. (Holguin, p. 31).

However I think that we should not be so quick to give up the idea that beliefs can play these traditional roles. For if we deny that beliefs play these roles then it suddenly becomes mysterious why we should even have beliefs in addition to credences - but the thought that beliefs are mental states in their own right that cannot simply be reduced to credences has recently become quite popular in the literature (see for example Weisberg (2020), Friedman (2019), Ross and Schroeder (2014), Buchak (2014), Littlejohn (2015) and Jackson (2019)). Thus if there is a way to reconcile the idea that beliefs can be weak with the idea that beliefs can play these roles, this is preferable to simply giving up on the idea that they do.¹⁴ In the next section I hope to do just that. I argue that beliefs aren't simply our best guesses as to the answers of particular questions but rather mental states that *close inquiry* into particular questions that we are engaged in. As such, our beliefs are our answers to particular questions and they thus have a lot to do with guesses — since your answer to a particular question ought to always be your best guess. But it's not true that every best guess also provides an answer to the question — sometimes guesses are merely temporary hypotheses and just because I have a guess doesn't mean that I have settled the question. Sometimes I ought to simply keep inquiring. I will argue that by considering beliefs as mental states that close inquiry into questions, we have a picture of belief that can explain how

¹⁴ Dorst and Holguin offer natural language considerations in support of the guessing picture, namely that in cases like Horse Race it seems fine to say things like “I think horse A will win”, and that “think” seems to pick out the same mental states as “believe”. They then argue that any mental state picked out by “think” is too weak to play the traditional roles for belief. What should we say in response to such arguments? I think we should be skeptical of such natural language considerations since it is not always clear that agents who express their thoughts using “I believe” are really attributing a mental state to themselves. Suppose I say “I believe Jake stole my iphone.” I might use “believe” in order to express a degree of belief that Jake stole the phone rather than an outright belief, for example. Or I might use it as a hedge to imply that I'm not sure that Jake stole my phone though I think that's the most likely outcome. In either case it's not clear that in using the word believe I'm ascribing a mental state to myself.

beliefs can be weak while being compatible with the other roles beliefs are thought to play.

Section 2: Believing and inquiring

When we examine the failure of the guessing picture to account for the traditional roles that beliefs play, we can see that a viable solution to the problem has to have two parts: First, I've argued that while the fact that guesses are question-relative can help to explain how guesses (and hence beliefs) can be weak, it also prevents guesses from being able to fulfill the traditional roles of belief. This is because if our beliefs are question-relative as spelled out by Holguin, Dorst and Mandelkern, then there is no fact of the matter what you believe simpliciter — but there has to be a fact of the matter about whether you believe P in order for your belief that P to license the forming of reactive attitudes, provide you with a picture of the world, and allow you to rely on P in reasoning. So we need to have an account of belief according to which what you in fact believe is both sensitive to the questions that you consider (and hence sensitive to the different answer possibilities that you consider) but where there is nevertheless a fact of the matter about what you believe simpliciter.

Secondly, while the idea that beliefs are guesses can explain why beliefs are weak, not all guesses should amount to beliefs. This is because we cannot rely on all of our guesses in our reasoning, not all of our guesses should lead to reactive attitudes, and not all of our guesses form the picture of the world that we have. So if beliefs are to be able to fulfill the traditional roles, they have to be something stronger than mere guesses.

These two criteria thus point the way to an account of belief that could explain both how beliefs are weak and how beliefs can nevertheless fulfill the traditional roles that they are thought to play. Beliefs have to be in some sense responses formed to particular questions (in order to preserve the feature that your beliefs depend on the different answers to the question that you consider) but they have to be something stronger than mere guesses about the answers to such questions (since as we have

seen not all of our guesses amount to beliefs that fulfill the traditional roles). I thus want to propose the view that beliefs are mental states that *settle the questions that we are actually inquiring into*. A belief is, so to speak, not merely a guess about which answer is right but rather an answer that *closes our inquiry* into that question. It's only final answers in this sense that amount to belief. It's because beliefs on my account are more robust than mere guesses that (I will argue) beliefs can fulfill all the roles they are traditionally thought to fulfill. Also, if we hold that our beliefs are guesses that close inquiries into questions that we are interested in, what we believe can still be question-sensitive in some sense — what we believe might, for example, depend on the inquiry that we were actually engaged in. But this kind of question-sensitivity is different from the question-relativity of the guessing picture: on my view we hold the beliefs that close the questions that we are *actually interested in*, and so there is a real fact of the matter as to which belief we actually hold.¹⁵ I will use the term *question-dependence* for this kind of question-sensitivity (as opposed to the *question-relativity* of the guessing picture).

In the rest of this section, I will spell out the details of my view more clearly and show how this view has the resources to explain how beliefs can fulfill the traditional roles of belief while at the same time allowing for weak belief. In section 3 I will explore in more detail the difference between a view according to which beliefs are question-relative (along the lines of Dorst and Holguin) and my view according to which beliefs are question-dependent. In the last section I will address a series of worries about whether there is a tension between thinking that beliefs can play the traditional roles and thinking that belief can be weak.

¹⁵ What does it mean to be interested in a question Q1 rather than Q2? For the purposes of this paper we can say that I'm engaged in question Q1 (which is individuated by the answers P1,...,Pn) if I'm considering (explicitly or implicitly) the answers P1,...,Pn as possible alternatives to the belief Pj that I actually form. Note that the above view need not imply that I was engaged in a process of inquiry before I formed a belief. I could form the belief "The wall is green" upon seeing the green wall and this belief might close inquiry into the question of what color is the wall because the alternatives to "The wall is green" that I implicitly consider are things like the wall's being blue or red, and not things like "The wall is white but lit up with green lighting."

Let's start by going into more detail into the particular view of belief that I would like to propose according to which beliefs are mental states that close inquiry and settle questions. We can summarize this view as follows:

Belief as closing inquiry (BCI): An agent believes some proposition P iff she has closed inquiry into some question Q by concluding that P.¹⁶

Why should we accept such an account of belief and how does it help with the project that we are engaged in? Recently, there has been a lot of attention paid to the idea that there is a close connection between believing and inquiring. In particular, Kelp argues that “belief is a kind of move in inquiry and, more specifically,...it is the type of move that closes inquiry into whether p for one in the affirmative or negative” (Kelp (forthcoming), p. 14).¹⁷ Hieronymi (2008) holds that beliefs “settle questions” — and what else is it to settle questions than to close one’s inquiry into that question successfully. Jane Friedman (2019) also has argued for a close connection between believing and inquiring.¹⁸ The view that beliefs are mental states that close inquiry and settle questions thus fits nicely into this tradition of epistemology. It is also intuitively plausible: Consider a case where someone claims to believe P and nevertheless continues to inquire into a question Q that has P as a complete answer. Suppose for example you believe that your keys are in their usual place and nevertheless you continue inquiring into where the keys are. There seems to be something odd about your behavior — if you really believe that they keys are in their usual place, this should settle the question for you and you should close inquiry.

The view that beliefs close inquiry is thus independently plausible and so it is worthwhile to explore whether it can really explain how belief is weak while playing the

¹⁶ I offer a full defense of BCI in Berger (ms).

¹⁷ Note that for Kelp the question I close inquiry into when I form a belief is the question of whether P. However such a view would not allow for weak belief since the salient alternatives of this question are just P and not-P. In order to allow for weak belief we thus need to allow that we can come to believe P but settling other questions as well.

¹⁸ Friedman thinks however that the connection is merely normative, i.e. that it would be irrational for an agent to believe P while continuing to inquire into Q. See Lee (forthcoming) for an argument that Friedman’s argument really supports the descriptive version of such a principle.

traditional roles of belief. If it can then I think this is a further reason to accept a view according to which beliefs close inquiry. In the rest of this section I thus want to see how we might explain the different kinds of phenomena on my view of belief.

(i) Weak Beliefs

On the picture of belief I've proposed here, your beliefs are mental states that close inquiry into particular questions — and so what it is rational to believe will depend on the kind of questions you are inquiring into. This is why my picture of belief retains the resources to explain how beliefs can be weak. In order to see this, consider again the example of the horse race. We can still distinguish between a case where I'm inquiring into the question of which horse will win (and consider the answer possibilities that horse A, horse B or horse C will win) and where I'm inquiring into whether horse A will win or not. Suppose I am inquiring into the former question. It seems plausible that in this case, where after all nothing much hangs on which horse will win, I can settle this question by reaching a particular answer P as long as P is more probable than the other alternative answers to Q that I'm considering. But the possibility that horse A will win is more probable than the alternatives — so I can rationally settle this question by reaching the answer that horse A will win in this case. If we think of our inquiry this way then again the fact that it's more probable that A will lose is not a barrier to my believing that it will win since the possibility that horse A will lose isn't one that I'm explicitly considering in my inquiry (and nor is it clear that I always ought to consider this possibility if I just care about which of the three horses will win). Thus the fact that I have a higher credence in this proposition than in the one that horse A will win should not matter for the rationality of my believing that horse A will win.¹⁹

Before I explain in more detail how my view can explain how beliefs fulfill the traditional roles, recall that the guessing picture failed to explain this fact adequately for

¹⁹ What if an agent cares about both questions: She cares about which horse will win, but also whether horse A in particular will win. An agent might well inquire into both questions at the same time. However, she should recognize that her answer to the two questions are linked: Answering "Horse A will win" to the first question automatically entails answering that horse A will win to the latter question. But since answering the latter question by holding that horse A will win is not permissible, neither is answering that horse A will win to the former question. Thus coherence constraints on when we can close inquiry simply that we can't believe horse A will win in this case.

two reasons: First because on the guessing picture beliefs are question-relative and so there was often no fact of the matter as to what one believes, and second because mere guesses didn't seem to be the kind of thing that could satisfactorily play these roles. As I've argued above (and as I'll expand more in the next section) on my view of belief there is a determined fact of the matter about what we believe. Thus my view does not inherit the first problem of the guessing picture. I'll now argue that unlike guesses, beliefs that close inquiry are precisely the kinds of states that can fulfill the traditional roles.

(ii) Beliefs license reactive attitudes

While it seems odd to say that I can blame others on the basis of mere guesses, it doesn't seem odd to say that I can blame others once I've settled the relevant question and closed inquiry. In order to see this consider again the case of the stolen iPhone: The fact that I merely guess that Jake stole my phone doesn't make it appropriate for me to blame him. But if I've finished inquiring into the question of whether Jake stole my phone and settled the matter for myself, then it does seem appropriate for me to blame him. Thus while guesses seem to be the wrong kind of thing to license reactive attitudes, settled opinions that close inquiries seem a much better candidate for the kind of mental state that licenses reactive attitudes. And so the inquiry-based view of belief can explain why it is belief (and not other mental states) that license reactive attitudes.

One might nevertheless wonder whether it can really be appropriate to blame Jake on the basis of a weak belief that he stole the phone though — since in this case it would after all still be more likely than not that Jake didn't take the phone, and so blaming him might seem premature. I will address this worry in Section 4 — for now it is just important to note that (weak beliefs aside) there doesn't seem to be an inherent obstacle in explaining how it is that beliefs could license reactive attitudes on the inquiry-based view.

(iii) Beliefs form my picture of the world

What about the fact that our beliefs ought to furnish us with our picture of the world or our outlook? Recall again the problem the guessing picture had accounting for this aspect of belief: that something is a mere guess need not qualify it to form part of our outlook. However things seem to be different with respect to the results we reach at the end of inquiry — it seems natural to think that the propositions that make up my picture of the world are precisely the ones I've reached through a process of adequate inquiry. While I'm still inquiring into whether P (for example), P should not be part of my picture of the world (whether or not I'm guessing that P is likely going to be true) - it becomes so only once I've settled the matter for myself. Thus my view of belief seems compatible with the idea that beliefs form my picture of the world.

(iv) Beliefs license relying on a particular proposition

Lastly we need to ask whether my view can explain why believing some proposition P licenses relying on P in one's reasoning. The problem with the guessing picture was that guesses just don't seem to be the kind of thing that I can always rely on in my reasoning — if I merely guess (for example) that Jake stole my phone I should not automatically rely on this guess. But things again seem different when we consider the inquiry-based view of belief, according to which beliefs close inquiry into particular questions. The things that are settled for me seem to be much better candidates for me to rely on in my reasoning than mere guesses. While I'm still inquiring into Q (of which P is a complete answer) it would be premature for me to rely on P. But once I've settled Q by concluding that P there no longer seems to be any obstacle to me relying on it in my reasoning. Thus my view seems nicely compatible with the idea that beliefs license relying on a proposition in one's reasoning. Thus on the inquiry-based picture (unlike on the guessing picture) there is no inherent obstacle to explain how beliefs might license relying on a particular proposition.²⁰

²⁰ Though there are some interesting questions that remain to be answered about what exactly it means to rely on a particular proposition and when we can rely on a particular proposition. I will discuss these questions in Section 4.

I've thus shown that by considering beliefs not as mere guesses (as Holguin, Dorst and Mandelkern do) but rather as mental states that close inquiry into questions, we can offer a picture of belief according to which beliefs can be both weak and fulfill the traditional roles of belief. This gives us a reason to prefer my explanation of how belief is weak to the guessing picture.

In the next section I will offer another reason for preferring my explanation of the weakness of belief to the explanation of the guessing picture that concerns the question-relativity of belief. I will argue that accepting that beliefs are question-relative has unintuitive consequences on its own and we should prefer a different way of spelling out the idea that what we believe somehow depends on a particular question.

Section 3: Question Relativity and Question Dependence

Holguin, Dorst and Mandelkern accept a view according to which belief is question-relative — i.e. we believe P relative to the question Q if P is our (best) guess in response to Q. It's this feature of their view that allows belief to be weak in certain cases — but this feature of their view also has other, unintuitive consequences. It entails, for example, that sometimes there is no determinate fact of the matter whether we believe P simpliciter — we might believe P or not-P relative to different questions. We already saw that this feature of belief does not fit well with the idea that beliefs play different important roles in our mental economy. But besides that failure, the idea that beliefs are question-relative also leads to unintuitive consequences on its own. Consider the following example that is discussed by Holguin:

James Bond: Suppose you are looking for James Bond. You have a credence of 0.4 that Bond is in London, and a 0.2 credence each in the proposition that Bond is in Frankfurt, Munich or Berlin. (See Holguin (forthcoming), p. 13)

Relative to the question “Which city is Bond in?” you should guess that Bond is in London and this is what you believe, but relative to the question “Is Bond in

Germany?” you should guess that he’s in Germany and so believe “Yes Bond is in Germany”. One might think that this result is unintuitive on its own. But it also leads to an (I think) even more unintuitive result, namely that when one is asked “Which city do you think Bond is in?” and then immediately after “Which country do you think Bond is in?” you will answer first “London” and then “Germany”. Holguin argues that these beliefs are not strictly speaking contradictory — since you don’t believe that Bond is in London and that he is in Germany *relative to the same question*. But nevertheless, the fact that you report seemingly contradictory beliefs in such quick succession without any apparent worry or hesitation strikes me as an objectionable consequence of the view — and this is an objectionable consequence, even ignoring the worry that the question-relativity of belief is incompatible with the traditional roles beliefs are thought to play.

Thus I think that we should give up the view that beliefs are *question-relative*, such that one only has beliefs *relative* to a question (i.e. one might believe_{Q1} that P and believe_{Q2} that not-P at the same time) but there is no fact of the matter what one believes simpliciter. Instead, I think we should hold that beliefs are often what I called *question-dependent*. When a belief is question-dependent, then whether one believes P or not-P will depend on which question one actually considers or is interested in — but since there is a fact of the matter which question one considers, there will be a fact of the matter whether one believes P or not-P simpliciter.²¹

On the view I’ve proposed in the previous section, where beliefs are mental states that close inquiry into a particular question, what you believe will depend on the question that you are (or were) actually inquiring into (or are actually interested in) and so beliefs are *question-dependent* rather than question-relative. As I’ve mentioned in the previous section, explaining the weakness of belief by appealing to question-dependent beliefs rather than question-relative beliefs helps us to explain how beliefs can play the important roles that they’ve been thought to play in our mental economy.

²¹ Another view according to which belief (or rather knowledge) is question-relative can be found in Schaffer (2007). Yalcin (2018) defends a view on which belief is question-dependent.

But I think thinking of beliefs as question-dependent is also more plausible in its own right because it avoids the unintuitive consequence that when asked first which city Bond is in and then which country, we seem to give contradictory answers.

In order to see this let's consider in more detail the process of inquiry you go through in answering the different questions. Suppose I ask you first which city Bond is in. Let's assume that you have never considered the matter and so you think about it: You consider the four possibilities that are live for you (i.e. that Bond is in Frankfurt, Munich, Berlin or London). Since you have a 0.4 credence that he is in London and only a 0.2 credence each that he is in Frankfurt, Berlin or Munich you conclude that he is in London — you close your inquiry and form the belief “Bond is in London.”

Now suppose that I ask you which country Bond is in. You start a new inquiry into the question “Which country is Bond in?” But which answer possibilities should you consider? You have already concluded that Bond is in London — so (and this is the key insight) the only answer possibilities that you now need to consider for this question are the ones that are compatible with what you already believe. Notice that this is usually how we proceed in inquiries — we don't consider all logically possible answers to the question Q but only the ones we haven't already ruled out (i.e. the ones that are compatible with the things that we already believe). This means that in this particular case the only answer possibility you need to consider is that Bond is in the UK, since the possibility that he's in Germany is already ruled out by what you believe. But since there's only one answer possibility that you consider it's easy for you to settle the question by believing that Bond is in the UK and so this is what you answer. The view that beliefs are question-dependent in this way thus avoids the result that you'll give seemingly contradictory answers to the two (related) questions.²²

Objection: Order Dependence

²² Note however that this does not mean that this is the only answer possibility that you can consider. It would be permissible to consider other answer possibilities as well - but in this case you would also have to re-open the earlier question of which city Bond is in. This is because as soon as you consider the possibility that Bond is in Munich you have no longer settled which country Bond is in. (See also footnote 79).

While my view avoids the unintuitive consequence of the question-relativity picture, one might think my view has an equally objectionable feature of its own, namely that what I answer in response to the two questions will now depend on the order in which I was asked the questions. If you ask me first which city Bond is in and then which country, I will reply that he is in London, UK. If you ask me first which country Bond is in and then which city I will likely reply that he's in Germany, but I'm not sure whether he's in Berlin, Frankfurt or Munich. But one might point out that this feature is equally implausible: what you believe about the case should not depend on the order in which I am asked (and thus in which I consider) these questions. So we next need to ask how unintuitive is it that what I believe will depend on the order in which I am asked (and in which I consider) these questions?

Before we think about this question in more detail we need to clarify first what kind of order-dependence we are talking about. The objection as I have phrased it suggested that what I end up believing will depend on which kind of question I am asked first — but this is not strictly speaking true. Rather what I end up believing overall will depend on what kind of beliefs about the matter I form first. Suppose I already believe that Bond is in London before you ever ask me a question — then I'll reply that he's in London (UK) regardless of which question you ask me first! The reason my answers seem to depend on the order in which I am *asked* the questions is mainly due to the fact that I haven't already thought about the matter and so which question you ask me first will determine which question I consider and hence which beliefs about the issue I form first.

With this clarification in place, the question of the order-dependence really becomes this: Is it rational for my belief about the second question to depend on beliefs that I already hold (such that if I didn't hold a particular belief then my answer to the second question would change). But I think here the answer is that there is nothing unintuitive about this kind of dependence per se. Rather it simply a byproduct of the fact that we are creatures whose resources are cognitively limited and the inquiry practices of cognitively limited agents display this kind of order effect. In order to see this just consider what we'd have to do to avoid the order effects: when I am asked

which country Bond is in (after first being asked which city he is in) I have to now consider not only the possible scenario that I believe obtains (i.e. that Bond is in London) but also all other scenarios that are theoretically possible but *which I have already ruled out* (i.e. that Bond is in Munich, Frankfurt, or Berlin)! But doing so greatly increases the computational cost of me finishing this second inquiry. In order to successfully inquire we need to rule out some theoretically possible answers — and which ones better to rule out than the ones that are incompatible with what we believe? But of course this kind of practice will invariably mean that which answers I reach to a particular question will depend on which questions I've been asked before (and hence which beliefs I've formed before). Thus I think the mere fact that what I believe about where Bond is depends on the kind of question I consider is not by itself a reason to reject my view. In fact it is just a natural consequence of us being inquirers with limited cognitive resources.

Notice that admitting that an agent with limited cognitive resources can rationally answer that Bond is in the UK (after believing that Bond is in London) does not mean that this kind of answer is the rationally optimal answer. Perhaps a better answer to the second kind of question would be to say that Bond is somewhere in Germany — but notice that doing so would increase the cognitive cost of conducting that second kind of inquiry since it would require the agent to consider possibilities that she's already ruled out. This thus suggests that there is a kind of trade-off between limiting the cognitive resources that the agent spends on her inquiries and accuracy. We can see this more clearly by considering perhaps a different example: Suppose I plan where to go for holidays and I consider Paris, London and Edinburgh as possible destinations. Suppose I find the decision very difficult since there are many advantages and disadvantages about each place and I'm having trouble comparing them against each other. So in order to make progress I decide to break down my deliberations: I first decide which country to go to (France or the UK) and after careful analysis of the two options decide that I'd like to go to the UK rather than France. Now suppose I decide which place in the UK to go to and I decide that London might be slightly more fun than Edinburgh. So I end up going to London. But suppose that if I hadn't broken

down my decisions in this way and had considered straight up which city to go to I would have (ultimately) chosen Paris. Is it irrational for me to end up in London instead? On one view it is: I ended up in a slightly suboptimal place, and perhaps Paris would have been better overall. But on the other hand it's not clear that my decision process is irrational: by breaking down my decision in two different steps I saved a lot of cognitive resources — so I traded in a little bit of accuracy (i.e. I chose a slightly less good spot) for a lot more computational simplicity. But that seems to be exactly how we should inquire as cognitively limited agents.^{23 24}

Note that I think this is exactly what's going on in the James Bond case: Only considering the possibility that Bond is in London simplifies my inquiry into the second question (i.e. which country Bond is in) but at the cost of accuracy (i.e. it would have been slightly more accurate to say that Bond is in Germany). However as a cognitively limited agent we are allowed to make these kinds of trade-offs: We don't always have to consider all possible answers to a question we're inquiring into — even the ones we believe don't obtain.

Section 4: Weak beliefs and the traditional roles

I have argued that if we consider beliefs as mental states that close inquiry rather than mere guesses, then we can explain why belief is weak while holding on to the idea that beliefs fulfill many of the important theoretical roles that they have been thought to play. But one might point out that it is not in fact a virtue of my view that it

²³ Notice that on this view it is permitted for the agent to only consider “live” possibilities (i.e. possibilities that she believes obtain) when she considers the second question and so simplify her inquiry, but it is not required for her to do this. She might undertake a thorough inquiry into the second question and consider all possibilities that she has good reason to think might obtain — but notice that in doing so (i.e. in treating it as a live possibility that Bond is in Frankfurt, say) she would automatically re-open her earlier inquiry into which city Bond is in as well. Such an agent might say, for example, “I thought Bond is in London but actually now that I'm thinking about it, I'm no longer sure.” She could then perhaps settle which country Bond is in (i.e. Germany), but she wouldn't be able to settle which city Bond is in. (For this kind of reasoning, see also the discussion of non-monotonicity and defeasible inferences in Strasser and Antonelli (2019))

²⁴ See also Tversky (1972)'s “Elimination by aspects” decision model for a similar decision model that reduces cognitive costs while leading to suboptimal outcomes in some cases.

can explain all these phenomena at the same time, but rather a vice. This is because the phenomena seem to be in tension: If I only have a credence of 0.4 in the claim that horse A will win, it seems that I should not rely on that claim in my reasoning. Thus, if weak beliefs can be rational this seems to undermine the idea that a belief that P in general licenses relying on P in my actions or reasoning. Similar arguments could be made with respect to the idea that belief licenses reactive attitudes like blame. One might think that it is not permissible to blame others if we only have a credence of 0.4 that they are guilty, and so if weak beliefs can be rational then it might seem that beliefs don't always license reactive attitudes like blame. Lastly, it might also seem that beliefs that are more likely to be false than true ought not to form our picture of the world. In this section I will address these three worries in turn and see whether (and how) all three phenomena really can be compatible with weak belief. In addressing the apparent tension between these traditional roles of belief and weak belief we will also see more clearly how the traditional roles of belief ought to be understood, and in what kind of situations weak belief might turn out to be rational.

(i) Weak beliefs and reactive attitudes

Let's consider first whether the idea that weak beliefs can be rational conflicts with the idea that beliefs license reactive attitudes. At first glance it seems difficult to accept that we can rationally blame someone for committing a certain act A, even though we only have a credence of 0.4 (let's say) that they actually committed A. Consider for example a case analogous to James Bond that involves some form of theft: Suppose you can rationally have a weak belief that Jake stole your phone (e.g. because your credence that he took it is 0.4 and your credence that each of 3 other people took it is 0.2 each) and you decide to blame Jake on the basis of that weak belief. If beliefs license reactive attitudes, then there should be nothing wrong with you blaming Jake for taking the phone — and yet that seems to be the intuitively wrong answer: You should not blame Jake for taking the phone if it is more likely that Jake didn't in fact take it! Thus it seems that the idea that weak beliefs can be rational conflicts with the idea that beliefs license reactive attitudes.

What can we say in response to this apparent conflict? I think the right thing to say about this conflict is to be more specific about the kinds of situations in which weak beliefs can be rational. While there might be nothing wrong with having weak beliefs in relatively low-stakes cases like horse race, there is, I think, something wrong with having weak beliefs in cases where we believe potentially discrediting things about others (such as that Jake stole the phone). How could the inquiry-based picture of belief explain why weak beliefs are fine in the former case, but not in the latter?

I think the answer is this: We should recognize that the beliefs we have about others can wrong them, and it is this (potential) wrong that renders my believing P a high-stakes situation, which gives me a reason not to settle this question on the basis of a low credence.

Let me unpack this idea in a bit more detail: In order to see how beliefs might wrong others, consider for example the following case given by Basu and Schroeder: Suppose that you have struggled with an alcohol problem for many years, but have been sober for eight months. Tonight you attend a departmental reception for a visiting colloquium speaker, and are proud of withstanding the temptation to have a drink. But when you get home, your spouse smells the wine that the colloquium speaker spilled on your sleeve while gesticulating to make a point, and you can see from her eyes that that she thinks you have fallen off of the wagon. If you are like us, then you will be prone to feel wounded by this. Yes, you have a long history of falling off of the wagon, and yes, there is some evidence that this time is another. You can see how it could be reasonable for someone to draw this conclusion. But it still hurts – not least because in your eyes, tonight was an achievement to stay on the wagon despite adverse circumstances. (Basu and Schroeder (2019), p. 2)

Basu and Schroeder argue that your spouse's belief that you fell off the wagon can wrong you — and in particular it is the *belief itself* and not the fact that you rely on that belief in your actions and reasoning that wrongs you. The fact that my beliefs can wrong Jake makes forming such beliefs a high-stakes matter which increases the epistemic standards — i.e. how much evidence is required before we can rationally close inquiry. Thus in such a high-stakes situation, a mere weak belief won't be enough for me to adequately settle the question of who stole the phone.

The problem is thus not that weak beliefs are in general irrational or that beliefs don't generally license reactive attitudes — the problem is rather that in the specific cases where a belief licenses a particularly strong (and negative) reactive attitude like blame, the potential harm from adopting this attitude towards others makes the situation a high-stakes case which requires the agent to have more evidence for a particular answer P before she can settle a question Q by concluding that P. That there needs to be nothing irrational about the combination of weak belief and the fact that beliefs license reactive attitudes in general can be seen, however, if we consider not cases of blame but rather cases of other reactive attitudes that might be less strong (and so less high-stakes). Suppose for example that instead of having a 0.4 credence that Jake *stole* my phone, I have a 0.4 credence that Jake *found and returned* my phone on the basis of the evidence (and a credence of 0.2 each that one of three others found and returned it). And suppose that on the basis of that weak belief I adopt a mildly favorable attitude towards Jake (though where that mildly positive attitude does not influence much how I treat Jake). Unlike the case where I blame Jake, this seems to be a fairly low-stakes situation, and so it is not clear that the epistemic standards would rise equally high in this case. Thus in this case I might well form a (weak) belief that Jake found my phone and, on the basis of that belief, have a (mildly) positive reactive attitude towards him. This doesn't strike me as wrong, however. When the reactive attitude in question is a low-stakes attitude, there doesn't seem to be anything wrong with a weak belief licensing that attitude.

Thus there is no in principle incompatibility with the having of reactive attitudes on the basis of weak belief — the two seem only incompatible when the reactive attitudes are high-stakes attitudes like blame. But then it seems plausible that when I might be able to blame someone on the basis of a belief P , then my belief that P is the kind of thing that might wrong others if I believed it about them — and this would raise the epistemic stakes and so make weak beliefs irrational.

(ii) Weak beliefs and our picture of the world

Are weak beliefs compatible with the idea that beliefs form our picture of the world? One might think that weak beliefs are ill suited to forming our picture of the world, since they are more likely false than true. But in fact the opposite is true — our beliefs can only constitute a comprehensive picture of the world if we allow for weak beliefs. For notice that our picture of the world doesn't simply consist of one or two particular beliefs — we often have many different beliefs about each topic that interests us. But a conjunction of many such beliefs usually has a relatively low probability of being true. Suppose we are considering for example the question “How are things in the world with respect to topic X ?” and consider as different answer possibilities conjunctions of different propositions P_i and their negation, then (as long as the P_i are sufficiently independent) the conjunction that consists of our beliefs will have a very low probability of being true and so without allowing for weak beliefs, we couldn't have a belief about how things are with respect to X . But notice also that the conjunction of P_i 's I believe to be true has a much higher probability of being true than the alternatives (i.e. conjunctions of other answers to the questions I'm interested in), and so if we allow for weak beliefs, this will allow us to believe the conjunction of many beliefs even if they have a low probability of being true. Thus if weak beliefs could not provide us with a picture of the world, we either couldn't have a picture of the world to begin with, or else that picture would be incoherent or incomplete in important ways (for example we would believe individual propositions about how things are with respect to P but we wouldn't believe a comprehensive picture of how things are with respect to a broader subject matter more generally). Thus, rather than conflict with the idea that beliefs form

our picture of the world, weak beliefs in fact are the only way in which we can have a suitably comprehensive picture of the world to begin with. So the idea that beliefs are weak fits in fact very nicely with the idea that beliefs form our picture of the world.²⁵

(iii) Weak belief and reliance

Lastly let's consider whether the idea that weak beliefs are rational conflicts with the idea that believing P licenses relying on P in one's actions and reasoning. We can again see the apparent tension between these two ideas if we consider the **Horse Race** case from the beginning of the paper. While it might seem intuitively plausible that we can believe that horse A will win, it might seem counterintuitive to think that we can also rely on the belief that horse A will win in our reasoning. It would seem irrational, for example, to bet a lot of money on horse A's winning. This thus suggests that weak beliefs are incompatible with the idea that we can rely on such beliefs in our reasoning.

In order to see how we can respond to this apparent tension, I think it is important to finally unpack in more detail the idea that we can rely on our beliefs in our reasoning and actions. How should we understand the idea that believing licenses relying on P?

There are I think two important questions that need to be addressed: (1) For what kind of decisions can we rely on P if we believe P? Can we rely on P for all decisions that we could possibly be facing, for the decisions that we are in fact facing, or only a subset of the decisions that we are in fact facing? (2) What exactly do we mean when we say that believing P licenses relying on P in one's reasoning? Am I only licensed to rely on P in my reasoning if doing so will also lead to the best outcome (i.e. the outcome with the highest expected utility)? Or can there be situations in which I am

²⁵ Notice that similar reasoning shows that the inquiry-based view could also offer a satisfactory solution to the preface paradox by explaining why it's rational to believe the conjunction of claims in your book (namely because that conjunction is more likely than the alternatives). See also Kaplan (1996) for a similar view on the preface paradox.

licensed to rely on P even if sometimes acting as if P will lead to a suboptimal outcome (perhaps because the small benefit of achieving a slightly better outcome is not worth the extra cognitive costs it would take to get to such an outcome). It is these two questions that I think we need to consider in more detail.

Consider the first question: On some ways of answering this question it is true that weak beliefs conflict with reliance. Consider for example a simple view about the connection between believing and relying where (rationally) believing P licenses relying on P in one's actions and reasoning in *all possible situations* that I might be facing. On this strong view, believing that horse A will win would license me to rely on that belief in deciding, for example, whether to take an incredibly risky and high stakes bet on whether horse A will win. Since it seems unlikely that I can simply rely on my (weak) belief to make such a decision in this case, on this way of spelling out what reliance involves, weak beliefs conflict with the idea that beliefs license reliance.

But of course such a simple view is implausible in any case. For any proposition P that we have a credence of less than 1 in, there will always be at least some possible cases where I cannot simply rely on P in my reasoning — and so this strong view does not simply rule out weak belief but rather any kind of rational belief in cases where my credence in the proposition is less than 1. Thus we should not reject the idea that weak belief can license reliance, but we should rather reject the strong connection between belief and reliance spelled out in the simple view.

Consider thus another way to spell out the connection between belief and reliance that I think is more promising: Suppose that if we rationally believe P then we can rely on P not in making all decisions that we are facing, but merely in making low-stakes decisions.²⁶ Then the fact that you can't rely on your belief that horse A will win when deciding whether to place a large amount of money on horse A won't matter since betting a lot of money on horse A is a high stakes decision. These decisions (one might say) should not be decided by relying merely on one's beliefs but rather require

²⁶ See for example Jackson (2019) for what I take to be a similar view about the connection between beliefs and reliance.

taking careful accounts of the probabilities and utilities involved in the particular case. Such a view is more suitable I think for allowing that weak beliefs license reliance.

Why should we adopt such a restricted view about how beliefs license reliance? Holding that beliefs license reliance only in low-stakes cases fits nicely with the idea that (one of the) functions of beliefs is to simplify reasoning. On such a picture, we would simply rely on our beliefs (rather than more detailed credences) in our reasoning to simplify matters. But it seems plausible that we should use this simplifying technique only in low stakes cases since it is a mere heuristic that is often less accurate. High stakes cases warrant a proper investigation of the pros and cons of a particular decision and so we ought to rely on our credences rather than on beliefs (since, after all, relying on beliefs is just a way to simplify reasoning).

So in wondering whether (weak) belief licenses reliance we need to only wonder whether I can rely on my weak beliefs (like the belief that horse A is going to win) for low-stakes decisions that I'm making. And here the answer seems to be yes. For consider some low-stakes decisions you might be facing with respect to your belief that horse A will win. Someone might ask you which horse will win and you might have to respond, you might wonder where to position yourself so as to better see the winning horse, etc. But for all of these situations it seems perfectly fine for you to rely on your belief that horse A will win. In order to see more clearly why it might be ok for you to rely on your weak belief, consider what the alternatives are to relying on your belief that horse A will win:

(1) You could rely on some other proposition, such as the proposition that horse B will win, for example. But clearly relying on this proposition is *worse* than relying on the proposition that horse A will win. Alternatively you might rely on the proposition that either horse A, horse B or horse C will win— perhaps doing so would likewise be justified. But notice that relying on this disjoint proposition is not very informative in guiding your actions in any actual decisions that you will be facing and so it's not clear

that you would do better overall relying on it than on the simple proposition that horse A will win.²⁷

(2) Maybe you shouldn't rely on any of these propositions in your reasoning, but instead your decisions about matters relating to the horse race should be guided solely by your credences. This might lead you to make more accurate decisions — but it comes at a significant cost of additional mental effort and time. Additionally, if you are only facing very low-stakes decisions the benefits of all this extra effort are also only going to be very small. Whereas simply being guided by your belief that horse A will win in this situation is computationally very easy! Thus, it seems to me that it is not clear that relying on your credences rather than your beliefs in this situation is ultimately better. In fact it seems perfectly permissible to avoid the mental cost of performing utility calculations and simply rely on your belief that horse A will win, even if that leads to (slightly) less accurate decisions over all.

We can now also see how we should answer the second question — namely whether we are licensed to rely on P only if acting as if P produces the best outcome. On the picture of reliance that I have introduced here (where “relying on P” is a heuristic that we use to simplify our decision making in low-stakes cases), it need not be true that relying on P will always lead to the best outcome. It need only be true that relying on P leads to an outcome that is good enough in most cases so that the extra (small) benefit I would gain if I employed a more careful decision procedure would not be worth the extra cognitive cost. Thus I might be rational to rely on P in a particular (low-stakes situation) even if acting as if P has lower expected utility than some alternative option — this would just be a case where the benefits of relying on my credences to determine the best outcome will simply not be worth the extra cognitive costs.

²⁷ In fact there seems to be something like a trade-off between accuracy and usefulness — relying on the proposition that “Either horse A, horse B or horse C will win.” is more accurate but less useful. For this idea see also Dorst and Mandelkern (forthcoming).

On the view of how beliefs license reliance that I have proposed here, there is thus nothing irrational about supposing that weak belief too can license relying on P in one's reasoning.²⁸

Conclusion

In this paper I have argued that explaining the weakness of beliefs by appealing to a view according to which beliefs are our best guesses relative to particular questions faces a problem because such a view of belief can't account for the traditional roles that beliefs are thought to play. I have introduced an alternative view of belief according to which beliefs are not guesses but rather mental states that close inquiry into particular questions and I have shown that this view has enough resources to both explain how belief can be weak and how beliefs can fulfill the traditional roles that they are thought to play. I think this gives us strong reason to prefer the inquiry-based picture of belief to the guessing picture of belief. It is also, I think, a surprising result because it ultimately shows that the intuitions which motivate weak belief need not after all rule out a substantive view of belief according to which beliefs play interesting theoretical roles.

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²⁸ Notice that things might change if we are faced with high stakes situations such as **Asthma**. Perhaps in this case you should not rely on your belief — especially if that belief is weak. But this intuition need not undermine the idea that weak belief and reliance are in principle compatible since on the view I've been considering, believing that P licenses relying on P only in low stakes cases to begin with.

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