Chapter 7: Norms and Idealization

In the previous chapter I discussed the diachronic rules of Bayesianism and some alternatives that have been proposed. Towards the end I discussed an objection raised by David Christensen to the effect that it is hard to see how to properly justify truly diachronic rules, since many of the justifications look relevantly similar to justifications of obviously silly rules, like a rule saying that one’s degrees of belief should *never* change. The idea is that whatever relation degrees of belief at different times bear to one another, it’s not one that requires them to cohere with one another in the same way that degrees of belief at the same time should.

Thus I retreated to the idea (partly attributed to Bas van Fraassen) that we should at least *plan* to update our degrees of belief in line with conditionalization, and that the future degrees of belief we are *committed* to at a given time should satisfy reflection. But the question is whether this results in any truly diachronic norm.

In this chapter I want to address the question of what the normativity of *any* of the rules of Bayesianism is like. I will start with the diachronic rules and then consider some issues with the synchronic rules. I will focus there on the distinction between logical and epistemic possibility, and the different roles I think they play in governing rationality. One interpretation of the arguments that have been discussed so far will end up leading to the perhaps surprising suggestion that the rules of Bayesianism may not in fact be normative at all, but may instead be mere descriptions! That is, I will suggest that perhaps merely in virtue of being the sort of creatures that have degrees of belief, one might *automatically* satisfy the probability axioms, and that being a unified and extended agent through time *automatically* means that one obeys the diachronic rules. On this picture, most of what we think of as normative about Bayesianism is actually derived from some sense in which logic is normative on epistemic possibility.

Perhaps this particular interpretation can’t be sustained. Perhaps the synchronic rules, the diachronic rules, and logic all have their own sort of normativity. Still, I think the upshot of this discussion is that the sources of that
normativity are distinct, which may be an important point to consider when considering non-ideal agents. To the extent that it’s possible for someone to fall short of the ideal and still constitute an agent, we may classify them differently if they fall short in different ways. And the sorts of behaviors that are motivated to try to become more ideal may be different.

Diachronic norms

The first thing to note when discussing diachronic norms is that the question of who they are even supposed to apply to can sometimes be somewhat tricky. The question of what it takes to be the same person over time is a notoriously difficult one. In ordinary cases, it’s clear how a human body persists through time (through growth and development and aging) and it’s clear that the person constituted by that body is the same person. But in some cases it’s less clear. A person who undergoes a radical conversion experience and disavows the earlier self may be said to not be who she once was. This may be even more plausible in the case of severe amnesia followed by development of a new character.

Some even more unsettling cases emerged in the middle of the 20th century when one experimental treatment for extreme cases of epilepsy involved severing the connection between the two hemispheres of the brain. (Nagel, 1971) Subsequent studies of these patients indicated that although they functioned normally in most circumstances, in situations where the two halves of the visual field were obstructed from each other, and where the two hands were presented with different stimuli, more unusual behavior was possible. Because speech is primarily controlled by one half of the brain, patients were only able to verbally identify objects presented visually in one half of the visual field. However, when objects were presented visually to the other half of the visual field, the patient would verbally deny that they saw anything, but would nevertheless successfully point to another object of the same type with the relevant hand. In ordinary life, the two hands and the two eyes appear to function together as well as they do in anyone else, but in the special setting where their stimuli are separated, they seem to behave like two separate people.

In his discussion of these cases, Nagel suggests that it is unsatisfactory either to describe the patients as having one mind or having two. Instead, he suggests that we shouldn’t characterize mental phenomena in terms of minds, but instead just accept that various mental phenomena can be integrated to a greater or lesser extent. Humans in ordinary conditions don’t exactly have true unity of consciousness, but instead have a very great degree of integration, produced by interactions through shared sensory perceptions, direct neural connections between the hemispheres of the brain, shared contact through the spinal cord to the lower parts of the body, and many other pathways. When enough of these pathways are interrupted, mental phenomena can organize in ways that seem more like two persons in one body. But on this view, the notion of “one person” seems to be an exaggeration, even when just considering the mental phenomena at one time, let alone across time, as the split brain patient moves between the greater integration of ordinary life and the greater dissociation of
the lab setting.

A recent study by Nina Strohminger and Shaun Nichols (2015) of the effect of neurodegenerative diseases on personal identity suggests future directions for some of this work. Caregivers (usually the spouse or adult child) of people with Alzheimer’s disease, ALS, and frontotemporal dementia were asked about the severity of various physical or cognitive symptoms in the patient, and were also asked how much the patient “is still the same person underneath” or “seems like a stranger” and whether the caregiver feels like the “still know who the patient is”. What they found is that in this third-person assessment, the symptoms that were most strongly associated with changes in who the patient is are changes in moral traits, more than loss of memory or speech or non-moral personality changes. Great care is obviously needed in assessing the relevance of this sort of work, but it suggests another avenue of research to figure out whether and to what extent the persistence of commitments (of values, beliefs, or other kinds) can be said to be constitutive of identity rather than guided by it.

In his book *Reasons and Persons* (1984), Derek Parfit supplements these cases with various science fictional examples involving teletransporters and duplicators that create physical bodies bearing greater or lesser degrees of physical and psychological continuity to earlier ones. Motivated by these cases, Parfit suggests that what we ordinarily think of as a precise relation of being the same person should be replaced by various relations of continuity that come in greater or lesser degrees. We might think that cases of attenuated “identity” call for attenuated prudential norms of self-interest. But Parfit suggests that it might be better to replace these prudential norms of self-interest with more impersonal moral norms, and that the reasons we have for action should treat our future selves no differently from anyone else.

On a Parfitian view, we might say that the attenuated degree of continuity constituted by particular degrees of physical and psychological continuity might give one an attenuated reason for coherence across time. Over longer periods of time the reasons for continuity might be replaced by reasons for interpersonal coherence, if there are any. Some of the literature on disagreement and testimony has suggested that there are — mere awareness that your opinion is different from that of another person who is in no appreciable way epistemically worse off than you may give one a reason to modify one’s degree of belief to be closer to that of the other person. This view is controversial, but it may provide a natural alternative for grounding truly normative diachronic rules for Bayesianism, by introducing them in tandem with interpersonal norms. This would be a way to accept Christensen’s analogy of the diachronic and interpersonal cases, but to draw the opposite conclusion.

[learn more about Buddhism and add discussion of this conception of self]

Christine Korsgaard (1989) suggests a different, Kantian, response to these considerations, which I would like to adopt. Although the physical and mental substrate of our lives may not have true conditions of identity across time, but merely greater and lesser degrees of connectivity, Korsgaard notes that most actions are necessarily extended in time. Agency is necessarily unitary, even if it is manifested in bodies and minds that are dissociated to greater or lesser
degree. This is true whether the action and expression of agency is as brief as intentionally drinking a sip of water or as long as an intentional plan for how to live one’s life. This can even be true for collective actions taken by a family, or a club, or a state, provided that they are acting intentionally as a unit (even as each individual may have her own separate actions done in parallel with the group action). Rather than any particular degree of physical or psychological continuity grounding a notion of personal identity sufficient to give us reasons for acting in a coherent way across time, she suggests that it is the unified action across time that constitutes the identity of the person. “You normally think you lead one continuing life because you are one person, but according to this argument the truth is the reverse.” (p. 113) I would like to extend this sort of thought to states like degree of belief and desire, and not just action.

In the previous chapter, I suggested that the accuracy and pragmatic arguments for conditionalization could only justify the synchronic rules relation conditional to unconditional probability, together with a commitment to a plan for change in light of hypothetical future evidence. On a Korsgaardian view, we might say that the actually diachronic rule is just part of what it takes to be a unified agent across time. This could be read in a strong way or a weak way. On the strong reading, we might say that the epistemic self is extended through time if and only if the degrees of belief in fact change in line with the commitments of the earlier self. On the weak reading, we might allow that factors other than the way degrees of belief change over time are relevant to partial determination of identity as well. The strong reading would say that an agent who fails to update in line with conditionalization (or reflection, or whatever the correct version of the diachronic norm turns out to be) has not failed in any normatively significant way — there’s just an epistemically different person present at the later time than the earlier time. The weak reading would allow that other factors could determine a degree of partial identity across time, which allows room for these factors to determine some normative reason for the actual update. At this point I favor the strong reading, because I can understand where it leaves us. But the weak reading is a potential alternative, provided that we can give some explanation of the normativity of the other factors of identity on degree of belief.

One important feature of this way of grounding the diachronic rule is that it explains how a rule for change of degree of belief can be important for identity across time. Christensen raised a worry that a Dutch book argument apparently similar to that for conditionalization can also be given for a rule to never change one’s degrees of belief. (If one finds different prices for the same bet fair at different times, then buying the bet at the more expensive time and selling it at the cheaper time produces a guaranteed net loss.) However, when considered in terms of commitment, this argument is relevantly different from the ones for conditionalization and reflection. One shouldn’t be committed to a particular change in one’s degrees of belief, but instead should be committed to a plan that changes one’s degrees of belief in one direction in light of one particular piece of evidence one might receive, and changes them differently in light of another piece of evidence one might receive.
Korsgaard doesn’t consider this particular sort of change, but she does consider how agency can be unified across many psychological changes in the person.

For the Kantian it does matter who is initiating the use of the mechanism. Where I change myself, the sort of continuity needed for identity may be preserved, even if I become very different. Where I am changed by wholly external forces, it is not. This is because the sort of continuity needed for what matters to me in my own personal identity essentially involves my agency. (p. 123)

If one’s degrees of belief update in light of new evidence in line with one’s earlier commitments, then one still has the unity of agency that the Bayesian picture describes. This can be true even when the evidence and commitment give rise to very drastic changes in one’s degrees of belief (as is possible when one gains a piece of evidence that one antecedently considered extremely unlikely). Conversely, someone who gets this surprising evidence but somehow keeps her degrees of belief very similar to her pre-update degrees of belief has violated her commitment to conditionalize, and is thus in the relevant sense a different person after the update, despite some sort of similarity that she bears to the prior self.¹

Things can seem odder if we consider a person whose commitments to update violate the synchronic rule. On this view, the unity of the agent across time depends on whether she actually updates in line with her commitments, and not on whether the commitments were rational. An agent who has \( P_1(H) = .8 \), \( P_1(H \& E) = .4 \), \( P_1(E) = .5 \), but \( P_1(H \mid E) = .1 \) will count as a unified person across time if, after learning \( E \), she has \( P_2(H) = .1 \). She will count as a disunified person across time if she has \( P_2(H) = .8 \), in line with what the standard calculations suggest, even though that degree of belief is more similar to her prior than the one she was committed to in such an update.

This lets us address a question raised by Michael Titelbaum (2012), in Chapter 7. If the synchronic norms on degree of belief are just that they satisfy the axioms of probability theory, then there are many different probability functions that an agent could have at a time, consistent with rationality. The diachronic rule says to change one’s degrees of belief only if one gets new evidence. But if, without any new evidence, someone’s degrees of belief happen to change from one coherent probability function to another, in what sense is this agent criticizable?

On the Korsgaardian view I am presenting, we can say that if her plan was to maintain the same degrees of belief, but that her degrees of belief nevertheless change, then there is some sense in which she is just a different person afterwards than she was before. She is not irrational, but just a new person. On the other hand, if she had planned to change her degrees of belief like this, then she is

¹However, it may be useful to note that at least the maximum entropy picture of updating says that there is some sense in which the output of standard conditionalization is in some sense the closest probability function to the earlier one that satisfies the constraint of having degree of belief 1 in the evidence. But this is highly sensitive to the notion of similarity that one has for probability functions.
one person through this change, but her plan was irrational in whatever sense a violation of the synchronic norms is irrational. (This will be investigated in the next section.) Oddly enough, if she plans to change her degrees of belief to another coherent probability function, but she actually maintains her current degrees of belief, then this view says that she is now a different person, despite nothing changing! The new self is rational (provided that she doesn’t have any strange plans of this sort), but the old self was irrational (because of the plan).

Synchronic norms

In light of the split brain cases and others, we might want to say something similar about synchronic rules as diachronic rules. Perhaps the axioms of probability theory and the synchronic rules about how to plan to update aren’t normative on agents, but instead are constitutive of being one agent in the first place. The people described in the previous section, with plans to update that don’t cohere with their current degrees of belief, aren’t irrational, but are rather better thought of as disunified person-parts that happen to share a body at a time.

Something similar is proposed by David Lewis (1982) for people with inconsistent beliefs.

I speak from experience as the repository of a mildly inconsistent corpus. I used to think that Nassau Street ran roughly east-west; that the railroad nearby ran roughly north-south; and that the two were roughly parallel. (By “roughly” I mean “to within 20°”.) …What about the blatantly inconsistent conjunction of the three sentences? I say that it was not true according to my beliefs. My system of beliefs was broken into (overlapping) fragments. Different fragments came into action in different situations, and the whole system of beliefs never manifested itself all at once. The first and second sentences in the inconsistent triple belonged to — were true according to — different fragments; the third belonged to both. The inconsistent conjunction of all three did not belong to, was in no way implied by, and was not true according to, any one fragment. (p. 436)

The person with one coherent probability function giving her current degrees of belief, and the plan to update her degrees of belief to a different coherent probability function without getting any new evidence, is perhaps better thought of as two fragments of a person. If she does in fact update to the other probability function, then the second fragment is the one that survives to the future person. If she in fact stays with the original probability function, then we might say that the first fragment survives, though the lack of a plan for update in that first fragment might mean that the later person is not the same person as either earlier fragment, but is just similar to the first fragment. On the Korsgaardian view, a fragment must contain plans in order to survive through time at all.
More generally, similar considerations should apply to violations of the probability axioms. On this view, they would not be irrationalities, but rather signs of fragmentation. One can’t help but satisfy the probability axioms, to the extent that one is in fact a unified agent with a single set of degrees of belief.

The arguments for the probability axioms might be taken in a way that supports this view. Consider Ramsey’s justification of the Dutch book argument (as in Chapter 2) for the claim that degrees of belief must satisfy the probability axioms:

Any definite set of degrees of belief which broke them would be inconsistent in the sense that it violated the laws of preference between options, such as that preferability is a transitive asymmetrical relation, and that if α is preferable to β, β cannot be preferable to α if p, β if not-p. If anyone’s mental condition violated these laws, his choice would depend on the precise form in which the options were offered him, which would be absurd. He could have a book made against him by a cunning better and would then stand to lose in any event. (Ramsey, 1926, p. 182)

We can read Ramsey as saying that what it is for certain metal states to count as preferences is in part for those states to satisfy transitivity, and for those states not to favor an act with a possibility of a worse outcome and no possibility of a better one over an act that is guaranteed to have a better outcome. Note that he doesn’t say that it is irrational or unreasonable for someone’s choices between options to depend on the form in which they are presented, but that it is absurd.

This interpretation is only plausible if the notion of possibility at work here is one that is in some sense part of the mental states themselves. One has maximal degree of belief in something that is true in every possibility, and if A and B are disjoint sets of possibilities, then one’s degree of belief in A ∪ B just is the sum of one’s degrees of belief in A and in B. This is plausible if the notion of “possibility” is the agent’s own notion, but not if it is meant to be a kind of logical possibility, as is often assumed in discussions of Bayesianism. This is why, throughout this book, I have emphasized epistemic possibility. Though it might be more relevant to follow Hacking (1967) and call it “personal possibility”.

This doesn’t mean that incoherent degrees of belief are impossible within what appears to the world to be one person. Because of the possibility of fragmentation, as mentioned by Lewis, we could well find mental states residing within one head that fail to satisfy the probability axioms. However, this would suggest that each fragment would have its own relatively well-developed set of propositions to which it had degrees of belief. It doesn’t seem plausible that one fragment could have a degree of belief in A but no degree of belief in ¬A, while the other fragment has a degree of belief in ¬A and no degree of belief in A. Each fragment could have its own domain of propositions over which it has degrees of belief, but these will likely need to consist of many propositions as well as ones that are closely conceptually connected to them, rather than just a few isolated propositions here and there.
Lewis goes on to say, “Once the fragmentation was healed, straightway my beliefs changed: now I think that Nassau Street and the railroad both run roughly northeast-southwest.” It’s not clear to me what it means to “heal” a fragmentation, or how we should think of the revision involved in doing so. There may be norms here. If so, they may connect to the literature on disagreement — when ideas come into contact, there is a reason for them to cohere. We feel less pressure across individuals or across times than we do within an individual, but this may be a prejudice that is supported by the lack of constant two-way contact.

Because this notion of personal possibility or epistemic possibility is distinct from logical possibility, it is quite possible for someone to be very confident in the general facts she knows about how multiplication works, but uncertain as to whether 13 times 71 is 913 or 923, even though those general facts logically entail that it is 923. There can be epistemic possibilities for her on which those general facts hold but on which 13 times 71 is 913, even though such a “possibility” is not logically consistent. The degree to which she is willing to act on the correctness of the general rules for multiplication can be greater than the degree to which she is willing to act on 13 times 71 being 923, because she sees more possible ways for the former to be true than the latter.

Conversely, in addition to there being epistemic possibilities that are not logically possible, there can be logical possibilities that are not epistemically possible. This can arise both from consideration of evidence and from limitation of imagination. Thus, it is not epistemically possible for me right now that there is no table in front of me. Similarly, it was not epistemically possible for Galileo that space-time formed a unified four-dimensional manifold with non-Euclidean geometry. On the interpretation of degrees of belief that is required for the Dutch book argument, this means that my preferences among actions are not sensitive to the outcomes those actions would provide if there were no table in front of me, and Galileo’s preferences among actions are not sensitive to the outcomes those actions would provide if space-time formed a unified four-dimensional manifold with non-Euclidean geometry.

If action $A$ has a better outcome than action $B$ in every possibility except for this unconsidered one, then we prefer action $A$ to action $B$. If our degrees of belief violated the probability axioms when considered as applying to sets of epistemic possibilities, then the status quo would have a better outcome than the set of bets corresponding to a Dutch book based on our degrees of belief. Thus, we prefer the status quo to this set of bets. But on this interpretation, what it is to have some degrees of belief is to prefer these bets to the status quo. Thus, our degrees of belief don’t violate the probability axioms. No need to assume rationality — just a strict notion of what it is to have degrees of belief and preferences when one has a set of possibilities. Thus, on this picture, probabilism is descriptive, not normative.

Of course, there may be rational failings of a sort here. Both the person who doesn’t recognize that her beliefs about multiplication imply that 13 times 71 is 913, and Galileo, who hasn’t considered the possibility of space-time being a non-Euclidean manifold, may have some sort of epistemic failing. But it is
not a violation of the probability axioms as I have stated them. Instead, we must give some separate sort of justification for the way in which logic puts norms on epistemic possibility. (Florian Steinberger on the Normative Status of Logic in the SEP) This may be part of a broader project of figuring out how perception and other sources of knowledge put norms on epistemic possibility. This project is beyond the scope of this book. On the picture I am putting forward for consideration here (which may or may not be able to be sustained), the probability axioms themselves have more limited scope than might have been thought — they say how degrees of belief relate to epistemic possibility, but not to logic. The probability axioms are descriptive, while logic is normative. We can fit the elimination of logical impossibilities (as in Garber (1983)’s solution to the Problem of Old Evidence) and the introduction of logical possibilities that had been left out (as in the Problem of New Theories) into the applications of this normative part of the Bayesian picture.

Something similar might be said on the accuracy-based picture introduced in Chapter 3. Recall the Joyce/Lindley argument for probabilism. On this picture, it is essential to degree of belief that it aim at the truth. This aiming at the truth manifests as a minimization of some measure of inaccuracy. (The particular way of measuring inaccuracy may be a personal fact, just as William James suggested that the tradeoff between seeking truth and avoiding error in full beliefs is a fact about someone’s “volitional nature”.) If a set of degrees of belief violates the probability axioms, then there is another set of degrees of belief that is guaranteed to have lower inaccuracy in any possibility. For a set of attitudes to count as someone’s degrees of belief (rather than suppositions or desires or some other mental states) they must be aiming at the truth. That is, for any alternative set of states, the person must think it is possible that the other set of states is farther from the truth than the ones that she has. Thus, the person’s set of degrees of belief is not dominated. Thus, it satisfies the probability axioms. Anyone with degrees of belief satisfies the probability axioms, perhaps at the cost of an extremely profligate set of epistemic possibilities.

This is not to say that there are no norms involved here. In addition to the role of logic (and possibly perception and other sources of knowledge) in guiding epistemic possibilities, we must consider the role of degree of belief in guiding action. On the Ramsey interpretation, degree of belief just is one’s preference among actions. But on this accuracy-based view, it is a separate concept. Instead, we must use something like the picture I put forward in my (2014) to generate norms on preference governed by our degrees of belief. Logic and evidence put norms on epistemic possibility. Degrees of belief at a time and across time automatically satisfy the probability axioms and the diachronic rules, if there really is one person who has them. These degrees of belief then, in combination with one’s desires and values, put norms on preference, and presumably action. Perhaps there is something objective putting norms on desires and values, the way that logic may be something objective that puts norms on epistemic possibility (and thus, indirectly, degree of belief). But this idea is beyond the scope of this book.

This interplay between norms of logic governing epistemic possibility, and
degrees of belief automatically satisfying the probability axioms over these epistemic possibilities, produces a satisfying response to one objection to Hacking. In Hacking’s presentation, he formulated the rules on degrees of belief in terms of known logical consequences. Thus, at the end of his paper, he raises the worry that perhaps these rules are too weak — someone who fails to know much logic can be judged reasonable for behaving appropriately for the few that he does know. Julia Staffel (personal communication) has raised a version of this objection more forcefully. We can consider two people who have the same degrees of belief, including a higher degree of belief in $A$ than in $B$, even though $A$ logically entails $B$. If the first person doesn’t know anything about the logical relation between $A$ and $B$, but the second one knows that $A$ entails $B$, then Hacking judges the first person to be reasonable and the second one not. But as Staffel notes, this seems to suggest that gaining a piece of logical knowledge amounts to a way of becoming less rational!

On my picture this isn’t true. First, on the constitutive view of the relation of the probability axioms to degrees of belief, the second person isn’t even possible. The closest we can get is someone who has fragmentation of her degrees of belief, and has one fragment in which the degree of belief in $A$ is high (and the degree of belief in $B$ is even higher, if it is considered by this fragment at all) and another fragment in which the degree of belief in $B$ is low (and the degree of belief in $A$ is even lower, if it is considered in that fragment at all). This person is fragmented, but has no failure of rationality — just a failure of unity. Second, even if there is some interpretation of the arguments for probabilism on which this second person is possible without fragmentation, the second person is not uniformly worse off from the point of view of rationality than the first. The first person has a failure in the connection between logic and her epistemic possibilities. The second person doesn’t have that failure, but has some other failure in the connection between epistemic possibilities and her degrees of belief. On neither interpretation do we have the negative consequence that increased logical knowledge constitutes decreased rationality.

### Ideal and Non-Ideal

I have suggested that some of what has traditionally been thought of as a norm on belief is actually a condition on being a believer, and that some of what has traditionally been thought of as a norm on belief across time is actually a condition on being a single unified believer across time. These conditions are in some sense easier to meet than expected (because they are over epistemic possibilities rather than logical possibilities), so it might be plausible that all believers actually satisfy them (or are actually fragmented). But there are still some norms, in terms of logical possibility as a constraint on epistemic possibility, and the role of degree of belief in governing preference and action. (Depending on the interpretation of the arguments, there may be more norms as well — the weak Korsgaardian interpretation of belief across time might suggest this, and an alternate interpretation of the Dutch book or accuracy-based arguments might preserve their status as normative rather than constitutive.)
Much application of Bayesian epistemology involves studying how ideal agents behave. We assume that agents are perfectly logically omniscient and always act perfectly in line with expected utility. Then we derive some consequences of these ideas, and use them to characterize some of the features of perfectly ideal reasoners.

However, it remains to say what the implications of this idealization are for real people. As Julia Staffel (CITATION) has observed (following Watson, and Bigelow and Pargetter, and others writing about practical rationality), we can describe cases in which a non-ideal agent who tries to implement some features of ideal rationality may in some sense end up making her non-ideal situation worse. Instead, Staffel suggests that we should come up with some way of characterizing the degree of non-ideality of non-ideal agents, and then try to figure out rules that are practical for these non-ideal agents to carry out, that would usually tend to bring them (in the relevant sense) closer to the ideal. Staffel’s particular measures are designed for agents whose “degrees of belief” violate the probability axioms, which I have suggested here may well be impossible. But whatever sort of non-ideality is possible should be able to be characterized in some similar way. I don’t have a positive proposal for how to do so (and I don’t even have a full characterization of what the norms are like for the ideal reasoner), but this is a project that seems important for future study.

Some have said that imprecise probabilism is a way for degrees of belief to fall short of the ideals. [CITATIONS] However, I am suspicious of this idea. If degrees of belief can be imprecise probabilities, then we should say what this means. Do imprecise probabilities guide action in ways similar to the way that precise probabilities do? Do they have ways of being assessed for inaccuracy? Can they line up with the evidence? If so, then they could fit into overall doxastic states that fit all the requirements of rationality. In that case, they would not necessarily be less than ideal at all. But if they don’t have these features, then it’s less clear what it even means to say that an agent has such states.

There is certainly one way that imprecise probabilities are less than ideal, and it is a sense that precise probabilities other than 0 or 1 are as well. On the accuracy point of view, only the extreme degrees of belief can be perfectly accurate. However, it is possible for one’s overall state to aim at accuracy while denying the possibility of perfection, as long as there is an appropriate tradeoff between all the epistemic possibilities of being better or worse. Thus, it seems to me that the question of whether degrees of belief can be imprecise is a separate question from the question of how less than ideally rational agents should structure their thoughts.

References


