Intuition, Belief and Rational Criticisability

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Abstract

Can intuition be reduced to belief? That an agent who intuits that p sometimes believes that p is false is often thought to demonstrate that it cannot. I show that this case is inconclusive, but also that a rigorous argument for the same conclusion can be rebuilt using the notion of rational criticisability. Reductionist accounts entail that agents are rationally criticisable in cases when we know they are not. They are therefore untenable. Interestingly, the considerations that show this are are precisely parallel to those that show that attempts to reduce *perception* to belief fail. Using the notion of rational criticisability I show that an intuition that p is also not reducible to the acquisition of a belief that p, to a credence in p, or to the acquisition of a credence in p. Most significantly, however, we can also show that neither intuition nor perception is reducible to a belief that q, for *any* q. This, I argue, strongly suggests a lesson about the nature of intuition and perception. Intuition and perception are experiences.

1 Introduction

What is an intuition? Some say that intuition is an irreducible propositional attitude (Bealer 1998; Pust 2000); others that intuition can be re-

duced to some already-familiar mental phenomenon (Earlenbaugh and Molyneux 2009; Lewis 1983; Sosa 1998; van Inwagen 1997; Williamson 2004, 2007). I argue that intuition is not reducible to a doxastic propositional attitude. That is not a new conclusion: certain stock examples are widely taken to establish it. I show, however, that the standard case against the reduction is inconclusive; the proponent has a straightforward answer (§4).

I present a new argument against the reduction of intuition to belief (§5). The proposed reduction entails that agents are rationally criticisable in situations where we know they are not. It is therefore untenable. Interestingly, the considerations that show this are are precisely parallel to those that show that attempts to reduce *perception* to belief fail. In §6 I discuss this parallel.

One might have thought that an intuition that p is instead reducible to a *credence* in p, or to a different belief, a belief that q. In §7 I show that an intuition cannot be reduced to a credence. In §8 I show that the argument I have presented is effective against proposed reductions of an intuition that p to a belief that q, for *any* q.

That agents are not rationally criticisable in the relevant situations is independently interesting. It is also important, because it begins to shed a light on the true nature of intuition and perception. In the final section of the paper I discuss the significance of the argument I have presented for our understanding of the nature of intuition (§9).

I begin by considering how one might be motivated to attempt a reduction, and how a a taxonomy of different reductive views might be given.

2 Motivation

What might motivate one to give a reductive account of intuition or perception? When theorising about intuition and perception, an important datum is that both are putative input-mechanisms. Both perception and intuition seem to deliver *data* for the cognitive system to process. A full theory of the phenomena must tell us whether they really do provide us with data, but one can hardly deny that they *seem* to.

Non-veridical intuition and non-veridical perception present structurally analogous challenges to the theories of intuition and perception. How can perception, given that it is fallible, yield knowledge of a world independent of and external to the perceiver? How can intuition, given its fallibility, yield knowledge of truths independent of and external to the intuiter?[1]

Fallibility does not warrant wholesale distrust in a putative input-mechanism. But it does exclude a certain very simple model of the nature of perception and intuition, namely that on which intuition and perception simply consists in the 'grasp of' a mind-independent reality (where 'grasp'

[1]Of course, not everyone agrees that we gain such knowledge through intuition, and the sceptic denies this even for perception. I am not here arguing that we do gain knowledge in these ways, but explaining how views of the metaphysics of perception and intuition can be seen as interrelated.

is understood factually). Because it is sometimes non-veridical perception cannot simply consist in the grasp of independent reality: sometimes there must be perception without such a grasp. Because intuition is sometimes non-veridical it cannot simply consist in the grasp of independent truths: sometimes there must be intuition without such a grasp. The relation to reality cannot be simple and direct in either case. The challenge is to correctly account for the complications.[2]

A natural first reaction is to reject factuality, and say that intuition and perception both are acquisitions of *beliefs*, true *or* false, about reality. This constitutes a source of motivation for reduction to belief; this is the most conservative reaction to non-veridical intuition and perception.

A second source of motivation stems from the following considerations. Suppose someone suggested a new mental kind, a propositional attitude that had, it was claimed, so far been overlooked. I would be reasonable to request a demonstration that the new kind plays a role in a psychological or philosophical theory that cannot be played by already acknowledged entities, singly or in combination. Absent this, one would seem justified in denying that the putative new entity were real.[3]

[2]I am not suggesting that either relation should be understood as being *indirect*: I do not mean to imply that an intermediary object should be postulated. George Bealer (1998) argues that what he terms the 'local' fallibility of intuition is no bar to the hypothesis that it is strongly modally tied to truth. The tie holds in rather special circumstances, however: "Human beings only approximate the relevant cognitive conditions, and they do this only by working collectively over historical time" (202).

[3]Note that this is not a point about burden of proof; it would be equally reasonable to to react by attempting to demonstrate how already acknowledged entities, singly or in combination, could play the theoretical role claimed for the newcomer. Perhaps the

Belief and desire are propositional attitudes that strike many as having passed such a test. They both seem integral to folk-psychological explanation and prediction, and folk-psychology seems to be a very successful theory.[4]

Belief and desire also stand out by being 'pure' exemplars of opposite *directions of fit*. A belief is 'successful' if it fits the world, a desire if the world comes to fit it. Other propositional attitudes do not seem to be 'pure' in this way: a fear is *actualised* if the world comes to fit it but *well founded* if it fits the world; hope is *realised* if the world comes to fit it, but *realistic* if it fits the world.

Because belief and desire have already earned their keep, and because they seem to display pure directions of fit, one might be tempted to think that other propositional attitudes are reducible to some mix of the two—or at least that such reductions are well worth a shot. A fear that an avalanche will strike might be a mixture of some degree of belief that it will combined with a desire that it do not. A hope that stocks will rise might be a mixture of some degree of belief that they will combined with a desire that they do. This is one source of motivation for a reductive account of perception or intuition. Since no role for desire seems to present itself, reduction to a

new kind could earn its keep by simplifying the overall theory without strictly speaking playing a role that was not played before. We can safely ignore these complications here.

[4] Although I find it persuasive my purpose here is not to support this line of reasoning, but merely to explain a possible source of motivation for a reductive accouint. For opposing views regarding folk-psychology, see e.g. Churchland (1981). Kim Sterelny (2003) is one of many who argues that belief has earned its keep in this way, but is more doubtful about preferences.

doxastic attitude is the natural choice.

A third source of motivation stems from epistemic concerns. Noting that intuition is a putative input mechanism—that it *appears* to provide data for the cognitive system—one might be motivated to see whether there is a tenable view which preserves these appearances.[5] Or one might think that intuition is used as evidence in philosophy, and wonder whether an account can be given that validates such use.[6] But if intuition is irreducible, it is not mysterious how having an intuition could provide data for the cognitive system, or how it function as evidence? We might have had a random belief generator in our heads. Why should we think that intuition is any better? In contrast, if intuition could be reduced it might seem that these questions were more tractable; whatever story was given for how the reducing phenomenon provides justification would apply to intuition as well.[7]

Finally, a doxastic account of intuition might also be motivated by

[5]Jim Pryor is motivated by similar considerations for the use of perception in daily life in his "The Skeptic and the Dogmatist" (Pryor 2000, 538).

[6]For arguments that intuitions are used as evidence in philosophy, see e.g. Pust (2000, Chapter 1) and Goldman and Pust (1998). Bealer (1998) argues that intuitions are part of our 'standard justificatory procedure'. He has been interpreted by some as referring to *philosophers'* use of intuition (Earlenbaugh and Molyneux 2009, 91). I think Bealer intends to claim that the use of intuition as evidence is part of a justificatory procedure that is standard in a wider sense; in the sense of normal human life and inquiry. We need not pursue this here, however. For an argument that intuition is *not* used as evidence in philosophy, see Earlenbaugh and Molyneux (2009).

[7]Timothy Williamson is clearly motivated at least in part by such considerations in his 2007. Williamson wishes to reduce intuition to a disposition to enter into a doxastic state, not directly to the doxastic state, but the motivation works in both cases. Richard G. Heck Jr. (2000, 507–8) spells out this type of motivation for the case of perception.

broadly *logical* concerns. It might be thought that a reductive account best explains how intuition behaves, how we use it, and so forth.[8]

For all these reasons, then, one might be motivated to seek a reduction of intuition or perception to a doxastic propositional attitude. But to which one?

3 Different Doxastic Views

We can distinguish between different reductive views of intuition in several ways. First, we can distinguish according to the *contents* of the reduced and the reducing states. The simplest view is that an intuition that p is to be reduced to a doxastic state with the content p. Other views hold that the reducing state must have a different content q, where q stands in some appropriate relationship to p.

Secondly, we can distinguish according to which doxastic propositional attitude intuition is supposed to be reduced to. While one view has outright belief as its reducing state, another claims that intuition can be reduced to a *degree of belief*, a *credence*.[9]

Finally, some views hold that intuition should not be reduced to the doxastic propositional attitude itself, but instead to the *acquisition* of atti-

[8]This motivation is operative in Earlenbaugh and Molyneux (2009). As is the case with Williamson, these authors argue for a disposition view, but again, the motivation applies in either case.

[9]On some usages, credences by definition obey the probability axioms. I do not use the term in this way; it is to be regarded simply as a degree of belief.

tude, or the *disposition* to be in it. We have, accordingly, at least the following possible views. An intuition that p is reducible to:

1. A belief that p
2. An acquisition of a belief that p
3. A disposition to believe that p
4. Some credence in p
5. An acquisition of some credence in p
6. A disposition to have some credence in p
7. A belief that q
8. An acquisition of a belief that q
9. A disposition to believe that q
10. Some credence in q
11. An acquisition of some credence in q
12. A disposition to have some credence in q

Plausibly, there are even further variations: an intuition might be thought to be the acquisition *of a disposition* to either believe or have credence in either p or q. But the list above captures the central contenders.

In this paper I discuss all the above views, save the disposition views (3, 6, 9 and 12). Such views merit separate treatment, which I cannot provide here. The views which are discussed in this paper I collectively label 'doxastic' views of intuition. I shall argue that a single line of argument deals decisively with 1, 2, 4 and 5, and that, furthermore, this line can plausibly be extended to deal with the remaining positions (7, 8, 10 and 11).

4 The Standard Case Against Doxastic Views

We begin with views of type 1. A simple view of this type is:

Equivalence: $\Box\forall x\forall p(Ixp \leftrightarrow Bxp)$

Equivalence says that all and only those who intuit that p believe that p. It does *not* say that an intuition that p is identical to a belief that p, nor that the words "intuition" and "belief" are synonymous with one another, nor that the concept of having an intuition that p is the same as the concept of believing that p. If any of these views are true, however, so too is Equivalence, so its falsity establishes the falsity of all these views.[10]

And Equivalence clearly *is* false. There are many things I believe but which I do not intuit. For example, I believe but do not intuit that πr^2 yields the area of a circle, that (the northern) winter solstice is in December,

[10] Absent a reason to think that the properties of intuiting that p and believing that p could be necessary coextensive but non-identical (*a la* that presented for *having three sides* and *having three angles* in Sober 1982) one might think that the *truth* of Equivalence would justify credence in the *identity* of belief and intuition. I do not pursue this here.

and that if p, then $\neg\neg\neg\neg\neg\neg\neg\neg\neg\neg\neg\neg\neg\neg\neg\neg\neg p$.

A natural next suggestion is that anyone who intuits that p believes that p, but not *vice versa*. An intuition that p could then be taken to be a particular type of belief that p. The suggestion is that an intuition that p is reducible to the conjunction of a belief that p with the obtaining of some other condition:

Ellipsis: $\Box\forall x\forall p(Ixp \leftrightarrow Bxp \,\&\, \ldots)$

Clearly there are ways to fill in the blank that render the view false. The question is whether there are ways to fill it in that render it true. Until we are told what is missing we cannot assess the view directly. But we can assess it indirectly, via:

Entailment: $\Box\forall x\forall p(Ixp \rightarrow Bxp)$

If Entailment is false, then Ellipsis is too, since the former is entailed by the latter.

Agents sometimes come to regard something they intuit as false. This is widely thought to show that such simple reductive views as Entailment are false (Bealer 1992, 1996a,b, 1998, 2001, 2002, 2004; Chudnoff forthcoming; Earlenbaugh and Molyneux 2009; Huemer 2001, 2005, 2007; Kagan 1989; Plantinga 1993; Pust 2000; Sosa 1996, 1998, 2006, 2007a; Williamson 2007). An often noted example is the Naïve Comprehension Axiom of set theory:

> . . . I have an intuition—it still *seems* to me—that the naïve comprehension axiom of set theory is true; this is so despite the fact that I do not believe that it is true (because I know of the set-theoretical paradoxes) (Bealer 1998, 208).[11]

Call this 'the standard case' against doxastic views. To evaluate it, we need to know whether the naïve comprehension axiom is an example of something we intuit but regard as false. We need to know whether we really intuit the naïve comprehension axiom, and for that we need a formulation of it. Bealer does not offer one. Moreover, on some common formulations, it is questionable whether we do.[12] However, I think it is clear that most people have the following intuition:

NCA If anything which satisfies condition F satisfies condition G and *vice versa*, then the set of the things which satisfy F is identical to the set of things which satisfy G[13]

[11]The same formulation is found in Bealer 1992, 1996a and 1996b, and shorter references to the same example are in his 2002 and Bealer (2004). In his 2001 he refers instead to "the naïve truth schema" and the Liar Paradox to make the same point.

[12]For example: "For every predicate, there is a set of all and only the things to which the predicate applies", or "To every intelligible condition there corresponds a class: its members (if any) are all and only the things that satisfy the condition" (Sainsbury 1987 [2003], 109).

[13]A useful paraphrase: If any F is a G, and any G is an F, then the set of the Fs *just is* the set of the Gs. In what follows I restrict the discussion to NCA as stated. Anyone who finds a different example more convincing—the conjunction of the premises in the Sorites paradox, perhaps— should feel free to substitute accordingly. If it is felt that this is not a formulation of the naïve comprehension axiom properly speaking, one should feel free to regard 'NCA' as a mere label, not an acronym.

NCA is false, for from it is derivable the claim that for any F there is a set of all and only the things that satisfy F, and from this Russell's paradox follows.[14] What makes NCA such a good candidate for a counterexample to Entailment is precisely this fact, that it is *provably* false: learning of a proof that demonstrates that a proposition is false seems very likely to cause an agent to believe that it is.

Consider therefore an agent who has the intuition that NCA is true and as a result acquires the belief that it is. She then learns or comes up with a proof of its falsity. If NCA is to work as a counterexample to Entailment, two things must be true of her:

i. She keeps the *intuition* that NCA is true

ii. She sheds the *belief* that NCA is true

A belief is *shed* if it is non-accidentally lost in an appropriate way. In this instance it means that the agent loses her belief in NCA *as a result of* learning the proof that shows that NCA is false.[15]

Are i and ii true? The answer for i hinges in my view on considerations about the agent's phenomenology which are not at issue here. I

[14] Assume NCA: $\forall x \forall F \forall G[(Fx \leftrightarrow Gx) \rightarrow \{x : Fx\} = \{x : Gx\}]$. Substitute $x \notin x$ for both F and G: $\forall x[(x \notin x \leftrightarrow x \notin x) \rightarrow \{x : x \notin x\} = \{x : x \notin x\}]$. The antecedent is a tautology. Deduce the consequent and perform existential introduction, using the rule that anything which is self-identical exists. This yields $\exists x(x = \{x : x \notin x\})$. Call $\{x : x \notin x\}$ S. Is S a member of itself? Suppose it is. Then it must satisfy the condition for membership in this set, which is to not be a member of itself: $S \in S \rightarrow S \notin S$. Suppose it is not. Then it satisfies the condition for membership in S: $S \notin S \rightarrow S \in S$. So $S \in S \leftrightarrow S \notin S$. That is contradictory. So NCA is false.

[15] Further complications are probably necessary to avoid wayward ways of being the result of, but here I assume that the story can be completed.

think the answer is positive, and I shall assume this in what follows. But what should we say about ii?

What is usually thought to show that Entailment is false is the fact that agents sometimes come to believe that p is false (for instance by learning the proof that it is) while still having the intuition that p. *But this does not yet constitute a counterexample to Entailment*. Coming to believe that a proposition is false is not the same as shedding a belief that it is true. A defender of Entailment can therefore insist that the person who learns the proof *keeps* her intuition—that is to say, her belief—that NCA is true, and *also acquires* the additional and contradictory belief that NCA is false. She believes both NCA and its negation.

The proponent of such a view could with some justification complain that mere reference to NCA and similar cases does not suffice to *show* that there really are cases of intuition without belief. We have been given no *argument* for that conclusion, but merely been told to consider the cases and come to agree. This is not quite the same as begging the question; what needs to be shown has not been *assumed*. Those who take such cases to demonstrate the falsity of the reductive view presumably rely on introspection to ascertain that they do not believe NCA, and intend their readers to do the same. But it is a clear weakness of the dialectical situation.

The proponent of the view under consideration would have to adopt an error theory for certain self-ascriptions of mental states. Bealer says that

he has the intuition that the naïve comprehension axiom is true "despite the fact that *I do not believe* that it is true". On the proposal under consideration, he *does* believe that NCA is true. It is just that he *also* believes that it is false.

Adopting an error theory always implies a theoretical cost, Here, however, the cost is small enough for the view to constitute a significant challenge. First, the cost is offset by significant motivation for adopting a reductive view (§2). Secondly, *not believing that p* seems likely to be relatively easily mistaken for *believing that not-p*.[16] And finally, we know that people—even sensible people—occasionally hold contradictory beliefs. Why could they not hold them in the relatively few cases of agents regarding something they intuit as false?

Against this opponent, mere reference to NCA does not suffice. We need a stronger case.

[16]Chudnoff (forthcoming) argues that we should not say about Bealer that he has a conscious inclination to believe NCA even though he professes not to. It is implausible, he claims, that he would overlook a conscious inclination to believe that he actually has. I do not find such oversights implausible, but in any case, the oversight under consideration is smaller and even more plausible.

How would the account under consideration deal with cases where, after intuiting that *p* an agent suspends judgement with respect to *p*? Such cases cannot be explained away as a confusion of *not believing that p* vs. *believing that not-p*, since there is, *ex hypothesi*, no belief that *not-p* in these cases. A proponent could either deny that that really are any such cases—if the agent suspends belief with respect to *p* then she must have had *some* antecedent credence that *not-p*—or simply accept the cost of attributing this error (mistaken self-attribution of suspension of belief) to us in these rare cases, claiming that the cost is outweighed by benefits (§2) of the view.

5 The Argument from Rational Criticisability

We are, of course, in some sense free to use words to mean whatever we want, and one could use 'belief' in such a way that the objections I shall raise lose their bite. However, as Jackson (1998) reminds us, if we want to have an audience we had better mean by our words what everybody else means by them. In what follows I rely on a concept of belief which I take to be that of sophisticated common sense (as it is by and large expressed in recent philosophy of mind), and which I thus take to be a concept shared by most of us.

A demonstration of the falsity of Entailment is then straightforward. Agents who hold contradictory beliefs are usually *ipso facto* rationally criticisable.[17] There may be cognitive 'positions' one can be in relative to a pair of contradictory propositions, such that if one is in one such position, one is not rationally criticisable for believing these propositions.[18] And there may even be other factors or circumstances that shield one from rational criticisability. However, for NCA and its negation, one need be in no such position, and no such circumstances need obtain. (If there are no cognitive positions or other factors which shield one from rational criticisability, so much the better for this argument.) Therefore, if intuition

[17] I make no claims about blameworthiness.

[18] Having a compartmentalized' or 'fragmented' mind are both candidates, see Stalnaker (1984, chapters 4 and 5), Lewis (1986, 30–9) and Lewis (1982). I am interested here in the core idea, and not in the uses these authors put it to. In particular, it is intuitively plausible that one can be shielded from criticisability for believing a pair of contradictory propositions if each belief resides in a different fragment or compartment.

implied belief, the agent who intuits NCA and believes ¬NCA would be rationally criticisable. She is not. This shows that Entailment is false, and so, too, is Ellipsis.

This simple argument is powerful. It relies on the notion of rational criticisability, but that is not to its detriment. That notion has a better claim than most others on being pre-theoretical, and the application it is put to in the argument is on solid ground.

Regimenting the argument makes it apparent how innocuous the premises are:

1. All who concurrently believe both a proposition and its negation are either *ipso facto* rationally criticisable, or they are 'shielded' from criticisability by being in special circumstances

2. Some people concurrently intuit NCA and believe ¬NCA

3. None of these are *ipso facto* rationally criticisable

4. Some of these are *not* 'shielded' by being in special circumstances

5. So, some of those who intuit NCA and believe ¬NCA do not believe both a proposition and its negation

6. So, some of those who intuit NCA and believe ¬NCA do not believe NCA

7. So, it is not the case that whoever intuits a proposition believes that proposition[19]

The premises here are all plausible. 1 is clearly true, and if we are liberal about what counts as 'special circumstances', it is analytic. It presupposes that there be circumstances in which holding contradictory beliefs renders one open to rational criticism, and that such circumstances are not *too* rare. It is not clear how one can retain rational criticisability as a useful concept and still deny this.

2 may be more contentious. The phenomenology associated with considering whether NCA is true is not completely unaffected by the acquisition of the belief that it is false. Some are tempted to say that the intuition vanishes. That seems to be an overreaction; the changes are insufficient for the intuition to be lost. Moreover, 2 only requires that *not all* those who learn the proof lose the intuition as a result.

3 falls out of our ordinary understanding of rational criticisability. No-

[19] A formal version:

1. $\forall x \forall y[(Bxy \ \& \ Bx\neg y) \rightarrow (Sx \vee RCx)]$
   For all x and y, if x believes y and its negation, then x is shielded or rationally criticisable
2. $\exists x(Ix\text{NCA} \ \& \ Bx\neg\text{NCA} \ \& \ \neg Sx \ \& \ \neg RCx)$
   Some x intuits NCA, believes ¬NCA, and is neither shielded nor rationally criticisable
3. $\exists x[Ix\text{NCA} \ \& \ Bx\neg\text{NCA} \ \& \ \neg\exists y(Bxy \ \& \ Bx\neg y)]$
   So, some x intuits NCA, believes ¬NCA, and believes no pair of a proposition and its negation
4. $\exists x(Ix\text{NCA} \ \& \ \neg Bx\text{NCA})$
   So, some x intuits NCA but does not believe it
5. $\neg\forall x \forall y(Ixy \rightarrow Bxy)$
   So it is not the case that anyone who intuits a proposition believes it

one is *ipso facto* rationally criticisable for concurrently intuiting a proposition and believing its negation, just as no-one is *ipso facto* rationally criticisable for a halfway immersed oar looking bent to them while they believe that it is not.

One might reasonably hold that a person who intuits that *p* but believes *not-p* fails to be rationally *ideal*: perhaps the ideally rational person has no false intuitions. But there is much distance between falling short of the ideal with respect to rationality, on the one hand, and being rationally criticisable, on the other. The judgement that an oar half-way immersed in water would not look bent to the ideally rationally person seems to be on equal footing with the corresponding judgement about intuition: there is just as much (or as little) plausibility to saying that things *look* exactly the way they are to an ideally rational person as there is to say that things *seem* exactly the way they are to her. 3 is, I think, non-negotiable.

Note also that 3 is not threatened by the claim that one might be *ipso facto* rationally criticisable simply for having the intuition that NCA is true.[20] That claim is false, I think, but even if true it would not show that 3 is false. From an agent being *ipso facto* rationally criticisable for intuiting NCA it does not follow that she is *ipso facto* rationally criticisable for intuiting-NCA-and-believing¬NCA.

We might say that *being ipso facto rationally criticisable for* is a *non-*

[20]See Sosa (2007b). Sosa only aims to show that an intuition is rationally criticisable under certain conditions. To resist 3 on these grounds one would also need to show that all cases of intuiting NCA while believing ¬NCA occur under these conditions.

monotonic two-place relation. A two-place a relation is monotonic if, whenever two relata stand in the relation, then anything which entails the second relatum also stands in that relation to the first relatum, and non-monotonic otherwise. For example, *being entailed by* is a monotonic relation, since if p is entailed by q, then p is also entailed by anything which entails q ($q\&r$, for example). By contrast, *being provided strong inductive support by* is non-monotonic, since it is not true that, if p is provided strong inductive support by q, then p is also provided strong inductive support by anything which entails q: p may not be provided *any* inductive support by $q\&r$, for example.

Being ipso facto rationally criticisable for is non-monotonic. I may be *ipso facto* rationally criticisable for failing to listen to a local's advice about a hike in the mountains, but not for failing to listen while wearing a bowler hat, even though the latter entails the former.[21] I *am* rationally criticisable for failing to listen to the local while wearing a bowler hat, of course, but not *ipso facto* rationally criticisable. My bowler hat just has nothing to do with it. So even if an agent is *ipso facto* rationally criticisable for intuiting that p, it does not follow that she is *ipso facto* rationally criticisable for intuiting-that-p-and-believing-that-*not*-p. So the fact that no-one is *ipso facto* rationally criticisable for concurrently intuiting a proposition and believing its negation is not threatened by the possibility that one might be

[21] I might be rationally or aesthetically criticisable for *going* on a hike while wearing a bowler hat. That is a separate issue.

ipso facto rationally criticisable simply for *having* a particular intuition.

It should also be clear that, as 4 claims, some cases of intuiting that NCA and believing that ¬NCA (and other similar cases) fail to occur in circumstances that shield one from rational criticisability. There may be cases where believing a pair of contradictory propositions does not render one rationally criticisable because the contradictoriness is hard to discover. This, however, is not one of them. It may be that even some believers of obvious contradictions are not rationally criticisable.[22] But whatever the correct account of these latter cases turns out to be, it seems that some notion of cognitive separation between the offending beliefs will play a key role. Intuitively, to escape rational criticisability, the agent must be barred from bringing them both under rational scrutiny together.

In our example there need be no cognitive separation of this kind, and usually there is none. The intuition that NCA and the belief that ¬NCA can easily be held firmly in mind at the same time; the mental 'spotlight' can shine on both at once; the town is big enough for the both of them. By acquiring the belief that ¬NCA the intuition that NCA is not straightaway relegated to another fragment or compartment.

One might instead be tempted to deny 4 by claiming that one *cannot help* believing what one intuits. Ought implies can, so it cannot be that agents ought to not believe NCA, and so they are not rationally criticisable.

But rational criticisability is not subject to ought-implies-can restric-

[22]See fn. 18 above.

tions of this sort. A parent who has lost his child may not be able to help believing that the child is still alive even though he knows full well (and so believes) that the child is diseased. A person with a psychological illness may not be able to help believing that her food is poisoned even though she has compelling evidence to the contrary (and so believes that it is not).If the parent's and the patient's minds are not compartmentalised—and perhaps also if they are—then they *are* rationally criticisable for so believing, however psychologically impossible it may be to shed the beliefs. Premise 4 is true.[23]

From these four premises it follows that Entailment is false; intuition does not imply belief. And from this it follows that Ellipsis is false, too.[24]

It is worth emphasising that the argument from rational criticisability differs sharply from the standard case. The standard case claims that cer-

[23]It is worth noting that the response in this paragraph is consistent with the admission that rational criticisability is subject to *some* ought-implies-can type restrictions. For example, it is plausible that we are not rationally criticisable for failing to deduce all the theorems of Peano arithmetic, and that this is at least partly because in some sense we *cannot*. What the cases of the parent and the patient show, however, is that there is an exception to ought-implies-can restrictions to rational criticisability when it is clear to the agent what rationality requires. In the cases of complex theorems of Peano arithmetic, what rationality requires is beyond our ken; we simply cannot tell. But in the cases of the parent and the patient it is clear to the agent in question what is rationally required, she is just in some sense unable to comply.

[24]An alternative approach would claim that on learning the proof, the agent does not acquire the belief that NCA is false, rather she suspends belief, and believes neither NCA nor its negation. However, it is very plausible that learning the proof will usually cause the agent to believe ¬NCA. In any case, all the above argument requires is that *some* agent concurrently intuits NCA and (for whatever reason) believes ¬NCA. So this alternative strategy does not compete with the one presented here, at most it complements it.

tain cases *directly show* that there is intuition without belief. It presents no argument, but simply indicates the cases in question and relies on introspection to support its view about them.

By contrast, I have *argued* that the hypothesis that intuition is reducible to belief entails that agents would be rationally criticisable in certain situations. I have argued that we know this *inter alia* because, whatever the circumstances which 'shield' persons from rational criticisability are, exactly, we know that the cases in question need not occur in such circumstances. But we also know that the persons are *not* rationally criticisable in the situations in question. So we can conclude that the hypothesis that intuition reduced to belief must be false.

That is the conclusion of the argument, not the starting point. I have certainly not assumed that there are not contradictory belief in the relevant cases. I have argued that there could not be, because the agent would then be rationally criticisable, which we know she is not.

So far I we have considered views of type 1, which say an intuition that p is reducible to a belief that p, together with the obtaining of some other condition. But the argument just presented generalises immediately to views of type 2, which say that it is reducible to the *acquisition* of a belief that p.[25] If an agent who believes that not-p intuits that p, and if she

[25]Views of this type were advanced by David Armstrong and George Pitcher for perception.

thereby acquired the belief that p, she would immediately thereafter come to be in a position where she would be rationally criticisable. But we know she does not. So intuition is also not reducible—wholly or in part—to the acquisition of a belief that p.

6 Perception, Belief and Rational Criticisability

David Armstrong and George Pitcher developed in the sixties and seventies views according to which perception is at least usually the acquisition of belief:

> [P]erception is nothing but the acquiring of true or false beliefs concerning the current state of the organism's body and environment (Armstrong 1968, 209).

> Sense perception is the acquiring of true beliefs concerning particular facts about one's environment, by means of or by the use of, one's sense organs (Pitcher 1971, 65).

Known illusions constitute an obvious challenge for theories of this kind. Attention to this problem will fortify the argument developed in the previous section.

A known illusion is a situation in which a part of the contents of perception is falsidical, and known to be so. The case needs special attention

from the perception-as-belief theorist, in particular in regards to the relationship between the content of the perception and the content of the ensuing belief. How can the content of perception be explained in terms of the content of belief when we do not believe what we see? There is pressure to divorce the content of perception from the content of belief, to admit that a separate account of the content of perception is needed. The situation is thus parallel in the relevant respects to the case of intuition without belief.

It is instructive to ask *why exactly* there is a challenge for Armstrong and Pitcher here. A well known case of known illusion is the Müller-Lyer figure, another useful example is looking at a wall known to be white through glasses known to have blue lenses.[26] Why does Armstrong not simply say that the perceiver acquires the belief that the lines are of unequal length *while still* believing that they are of equal length? Why does Pitcher not claim that the perceiver believes that the wall is blue *and* that it is white? More importantly, why *should* we not say this? The motivation to give reductive theories of propositional attitudes aside from belief and desire is strong (§2), and if we did, the content of perception could be accounted for by the content of the acquired belief in the usual way.

The answer is that this account would then yield the verdict that subjects are rationally criticisable in situations where we know they are not. Whatever the circumstances in which subjects are not rationally criticis-

[26]The latter example is, to my knowledge, due to Jackson (1977, 39-49).

able even when holding obviously contradictory beliefs, these are not among them. So the subjects of the illusions do not acquire beliefs with the content of their disbelieved perception.

It would be nice to give an account of rational criticisability which systematised these and other cases. I do not have a detailed account to offer, nor is one needed to sustain the argument I offer here. But here is a thought worth considering. Our epistemic states are ordered in a hierarchy, with belief on the highest level. When states on the same level contradict each other there is the potential for serious epistemic conflict. When states on different levels contradict each other, *ceteris paribus* the state which occupies a higher level will 'trump' the other. Rational criticisability can only arise when a conflict between states on the same level is not resolved by a state on a higher level (and may not arise in all such cases). It does *not* arise when states of different levels are in tension. Classifying perception or intuition as belief brings about the mistaken prediction of rational criticisability precisely for this reason. It misclassifies the conflict, which is not between states on the same level (two beliefs) but between states at different levels (one belief and a perception or an intuition, respectively), and therefore not a serious epistemic conflict.

Whether or not this strikes one as a plausible account, there is no need to hold back from putting to its rightful use the observation that these agents are not rationally criticisable. We can be confident that that is right.

7 Credence

In response to known illusions both Armstrong and Pitcher develop their accounts by saying that, perception should sometimes be identified with a *credence* rather than an all-out belief.[27] Thus Armstrong writes that in some cases of known illusions,

> we may still half-believe, or be inclined to believe, that [the perceived object] is as it looks. . . . [A]n inclination to believe . . . is nothing but a belief that is held in check by a stronger belief (1968, 221).

And Pitcher writes that, when background beliefs causes an agent to be "suspicious" of what she perceives; she "half-beliefs, or . . . is inclined . . . to believe" it (1971, 91–92).

One might think that a parallel move could work for intuition. Does anyone who intuits that p have a credence in p and *vice versa*? I first show why this manoeuvre fails for the Armstrong/Pitcher line and then make the parallel point for intuition.

[27] This is at least the most natural interpretation. Both Armstrong and Pitcher go on to discuss a third and *distinct* set of cases, and argue that in those cses, perception is best understood as a *disposition* to believe. Nothing here hinges on the question of interpretation: the credence must be considered whether or not Armstrong and Pitcher held it. I discuss the extension to cases of type 5 at the end of this section. Recall also fn. 9.

The following two assumptions will be useful:

Correspondence (perception): If an instance of perception is to be identified with a credence, the credence must be high or very high whenever what is perceived is *ordinary looking*

No Change (perception): If an instance of perception is to be identified with a credence, the credence does not change unless something about how things *look* changes

Something fails to be ordinary looking when colours and shapes behave in very unusual ways, and is usually ordinary looking otherwise. No restriction is placed on content *per se*, a perception of a pig flying could be perfectly ordinary looking in the intended sense. Accounts that respect the correspondence assumption are by far the most plausible. However, as we shall see, the case against views on this type goes through even without it.

Consider, then, an agent looking at a stick partially immersed in water. If the agent in the past encountered similar situations, and if he has in those situations run his hand along the stick and into the water, his credence that the stick is straight will be very high indeed. On the view under consideration, we are supposed to identify the perceptual episode with a credence. Given Correspondence (perception), that credence will also be high: there is nothing extraordinary looking about a bent stick.

But that means that, on the account under consideration, the agent would have credences in two contradictory propositions adding up to significantly more than one. On standard views of rational constraints on credences he would then be rationally criticisable. But we know he is not. So this response to the problem of known illusions fails.

We get this result even without Correspondence (perception), just so long as the credence acquired is not *very* low. The credence that the stick is straight is very high, and one is rationally criticisable as soon as the two credences add up to more than one (whether or not it is significantly more than one).

Another way to make the same point is this. Consider an agent who encounters for the first time a stick half-way immersed in water, and it looks bent to her. On the view under consideration, her perceptual episode is to be identified with a credence that the stick is bent. So she has some credence in that proposition, but also (let us assume) some credence that the stick is straight. Now she runs her hand down along the stick. It is incredible, surely, that her credence that the stick is straight does not rise. But then the agent will either become rationally criticisable, or No Change (perception) will be violated. For running one's hand down a stick half-way immersed in water does not change how things *look*.

Turning now to intuition, the question is whether all and only those who intuit that p have a credence in p:

Equivalence (credence): $\Box\forall x\forall p(Ixp \leftrightarrow Cxp)$

As in the case of outright belief, it is easy to come up with cases of credence without intuition.[28] But perhaps intuiting that p implies having a credence that p, *and* the obtaining of some other condition:

Ellipsis (credence): $\Box\forall x\forall p(Ixp \leftrightarrow Cxp\ \&\ \ldots)$

As before, we cannot assess Ellipsis (credence) directly. But we can assess the following, which is implied by it:

Entailment (credence): $\Box\forall x\forall p(Ixp \rightarrow Cxp)$

If Entailment (credence) is false, then Ellipsis (credence) is false too, since the former is entailed by the latter.

[28] That there will be a second recession, that there is intelligent life on other planets, etc.

Entailment (credence) fails in ways that are precisely analogous to what we saw in the case of perception. To bring this out we make the following assumption:

Correspondence (intuition): If an intuition is to be identified with a credence, the credence must be high or very high whenever the intuition is *strong*

No Change (intuition): If an intuition is to be identified with a credence, the credence does not change unless something about how things *seems* changes

In the case of NCA, the intuition is strong, so the agent who intuits that NCA would, given Correspondence (intuition) have high credence in NCA. She also has high credence in ¬NCA, since she knows the proof. She comes out as rationally criticisable, but we know that she is not. So Entailment (credence) is false. Again, the argument goes through without Correspondence (intuition), so long as the credence intuition is identified with is higher than 1 minus the credence the agent has in ¬NCA.

We can make this point, also, in an alternative way. Consider an agent who considers NCA for the first time, and it seems true to her. On the view under consideration, her intuition is to be identified with a credence in NCA. So she has some credence in that proposition, but also (let us assume) some credence in its negation. Now she learns the proof of Russell's Paradox. It is incredible, surely, that her credence in ¬NCA does

not rise. But then the agent will either become rationally criticisable, or No Change (intuition) will be violated. For learning the proof does not change how things *seem*, at least not significantly.

So far we have considered views of type 4, which say an intuition that p is reducible to a credence that p, together with the obtaining of some other condition. But the argument generalises to views of type 5, which say that it is reducible to the *acquisition* of a credence that p. If an agent who has a high credence that not-p intuits that p, and if she thereby acquires a high credence that p (or, indeed, anything but a very low credence that p), she would immediately come to be in a position where she would be rationally criticisable. But we know she does not immediately come to be in such a position. So intuition is not reducible—wholly or in part—to the acquisition of a credence that p.

It is important to keep in mind the discussion of the non-monotonicity of *ipso facto rationally criticisable for*, from §5 above. It is possible that there are propositions r such that if I believe that r, I am *ipso facto* rationally criticisable. But it does not follow from this that I am *ipso facto* rationally criticisable for believing-that-r-and-intuiting-that-p, even though the latter entails the former.

8 Doxastic Attitudes with a Different Content

So far we have considered views which attempt to reduce an intuition that *p* to a belief *that p* or a credence *in p*, or to the acquisition of such a belief or credence. But what about views according to which intuition is to be identified with a belief *that q* or a credence *in q*, or to the acquisition of such a belief or credence? The arguments I have presented use the fact that reductive accounts are committed to agents being rationally criticisable in situations where we know that they are not. There is nothing blocking the extension of this argument to the attempted reduction to a doxastic attitude with a different content than the intuition itself.

Consider the proposal that an intuition that *p* is reducible to a belief that *q*. *Regardless* of what we take *q* to be, one can intuit that *p* is while believing that *not-q* without incurring rational criticisability. So such cases fail, with complete generality.

Take, for instance, the suggestion that an intuition that *p* is reducible to the belief *I have some reason to believe that p*. Suppose that I believe that there are no such things as reasons, and deduce from this that there are no reasons to believe that *p*, and further that, *a fortiori*, I have no such reason. So I now believe: *I have no reason to believe that p*. It is quite clear that it is compatible with this state of affairs that I nevertheless have the intuition that *p*, and compatible without *ipso facto* rational criticisability.

If, however, my intuition that *p* was reducible to the belief *I have some*

reason to believe that p, I would now be in the state of concurrently believing that *I have some reason to believe that p* and *I have no reason to believe that p*. Whatever the circumstances in which subjects are not rationally criticisable even when holding obviously contradictory beliefs, these are not among them. So, if the reductive account were correct, I would be rationally criticisable. But we know that I would not, in fact, be rationally criticisable in this situation. So the reductive account is incorrect.

It is important that I could really have the relevant belief, and not just a belief I would *express* by saying "I have no reason to believe that *p*". I must *actually have* the belief that is correctly so expressed. And perhaps the defender of the reductive account would be tempted to say that, contrary to appearances, that is not a belief that I have. I have some other belief, and express it badly.

I cannot see what could justify such a claim. As Williamson (2007) urges, there is a big difference between *having* a concept, and fully *mastering* it. Presumably, all it takes for me to have the belief in question is that I have the relevant concepts; it is not necessary that I master them. But why, then, should I not be able to believe that *not-q* (or something that immediately implies *not-q*), for *whatever q* the reductionist wishes to use, and to do so without incurring *ipso facto* rational criticisability for the combination of that belief with my intuition?

It is an open question, of course, whether I can *correctly* believe that I have no reason to believe that *p* as I intuit that *p*. Maybe intuiting that *p*

always gives me a reason to believe that p (a reason that can be overridden, of course). But that I cannot *correctly* believe that *not-q* is unfortunately not a bar to my believing that *not-q*. If I can believe that *not-q*, then I can come to be in a position in which the reductionist is committed to saying that I am rationally criticisable. But we know I am not. *Nomatter* what the belief q is, I am never *ipso facto* rationally criticisable for intuiting that p and believing that q.[29]

9 The Significance of Rational Criticisability

Intuition cannot be reduced to belief or to degrees of belief. To show this we recognise that no agent who concurrently intuits that p and believes that *not-p* is *ipso facto* rationally criticisable. In arguments against the reduction of perception to belief or degrees of belief, rational criticisability plays a precisely parallel role.

This is not an insignificant embellishment on an already strong argument. To see this, first note that, while the standard case against doxastic views *starts from* the existence of cases of intuition without belief, the argument here presented has this as its *conclusion*. When what is at issue is precisely the nature of intuition, the former line is dialectically ineffective. Those who think that intuition is reducible to belief have little reason to

[29]The case against a reduction to the acquisition of a belief that q, to a credence in q and to the acquisition of a credence that q runs precisely as one should expect, given what has gone before.

accept that the cases are as described.

There is a strong intuition that the agents in question would not be ipso facto rationally criticisability for intuition that *p* and believing that *not-p*. This intuition is not about the nature of intuition; it is about rationality. As such it can better support a conclusion about the nature of intuition than can the simple assertion that in the cases at hand there is no belief. From this intuition, an *argument* leads to the conclusion that intuition cannot be reduced to belief. Moreover, the argument withstands scrutiny and challenge, for instance from the view that the real explanation for the absence of rational criticisability is that an intuition is a belief one cannot help but having (reply: rational criticisability is not subject to such ought-implies-can restrictions) and from the view that the criticisability is explainable by the agent being critcisable for the intuition itself (reply: *ipso facto* rational criticisability is non-monotonic).

Secondly, and far more importantly, the argument from rational criticisability is revelatory of the nature of intuition in a way that goes beyond the mere production of counterexamples.[30] Rationality makes demands on our doxastic attitudes, *inter alia* on their coherence.[31] But there are no

[30]Compare Bratman (1987, 20).

[31]Some think that the *only* rational requirements are coherence requirements. It is plausible, however, that there are also rational requirements for the adoption of doxastic attitudes on the basis of non-doxastic ones, e.g. the adoption of belief on the basis of perceptual experience. It is plausible that I am rationally criticisable if I adopt the belief that there is a banana in front of me on the basis of a visual perceptual experience as of a tomato. For an experience must give me a *reason* to adopt the belief: "[E]xperience must provide us with justifications for our beliefs about the world and not just 'exclupations"' Heck (2000, 500–1).

coherence requirements between an *experience* and a doxastic attitude.

There is no belief such that a combination of that belief and an experience makes the agent *ipso facto* rationally criticisable. For instance, there is no belief such that the combination of that belief and a stick half-way immersed in water looking bent to an agent makes the agent *ipso facto* rationally criticisable. This shows that a reduction of a perception to a belief that q is doomed, regardless of what q is.[32] Similarly, there is no belief such that a combination of that belief with an experience of fear makes that agent *ipso facto* rationally criticisable. If I am afraid of the spider on my leg, despite firmly believing that it is harmless, I am not *ipso facto* rationally criticisable. Any appearance to the contrary relies on a confusion between the experience itself, and behavioural dispositions that often go along with it. If I firmly believe that the spider is harmless, I probably *am* rationally criticisable if I act in accordance with my experience of fear, especially if so acting implies a notable cost for me. But suppose that I have rid myself of such dispositions. That makes it clear to see that I am not rationally criticisable for the combination of my experience and the belief. Experiences are simply the wrong kind of thing to bring this about.

I have argued that the argument from rational criticisability extends

[32]Incidentally, this argument is independent of whether perception has 'naïve semantics' or 'phenomenal' semantics (Glüer 2009). I can just as much combine my experience of a stick half-way immersed in water with the beliefs that nothing *looks* any way at all to me, and so, *a fortiori*, that the stick does not look bent to me, as I can combine it with any other belief, and without incurring *ipso facto* rational criticisability. It is a strange belief, to be sure, and one would have to work at coming up with a scenario that would implant such a belief in a person. But that does not change the basic facts of the case.

to beliefs that *q*, *for any q*. If effect, then, I have argued that there is no belief such that a combination of the belief with my intuition renders me *ipso facto* rationally criticisable. But that is the characteristic I have just argued applies paradigmatically to experiences. So if that is right, it strongly suggests that an intuition is an experience.

Far from being an insignificant embellishment on an already conclusive argument, the rational criticisability argument tells us something important about both perception and intuition. It suggests a deep similarity between perception and intuition, and something important about their nature: perception and intuition are experiences.

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