

Intuition, Belief, and Rational Criticisability

Ole Koks vik

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 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 partial belief that p , or to the acquisition of a partial belief that 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, suggests lessons about the nature of intuition, perception, and the mind generally.

1 Introduction

What is an intuition? Some say that intuition is an irreducible propositional attitude (Bealer 1998; Pust 2000); others that intuition can be reduced to some already-familiar mental phenomenon (Earlenbaugh and Molyneux 2009; Lewis 1983; Plantinga 1993; Sosa 1998; van Inwagen 1997;

Williamson 2004, 2007, see also Cummins 1998 and Ichikawa and Jarvis 2009). In this paper I argue that intuition is not reducible to belief. 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 precisely parallel to those that show that attempts to reduce *perception* to belief fail (§6).

One might have thought that an intuition that p is instead reducible to *partial belief* that p , or to a different belief, a belief in some proposition q , which is a function of p . I argue that an intuition that p cannot be reduced to partial belief that p (§7). Moreover, I argue that an intuition that p cannot be reduced to a belief or partial belief that q , for any q (§8).

That agents are not rationally criticisable in the relevant situations is independently interesting. It is also important, because it sheds light on the nature of intuition and perception, and, more generally, on the nature of the human mind, and the role of rationality in it. In the final section of the paper I discuss the significance of the argument I have presented (§9).

I begin by considering how one might be motivated to attempt a reduction, before giving a taxonomy of different reductive views (§3).

2 Motivation

What might motivate one to give a reductive account of intuition or perception? It is clear that there is a connection of some kind between intuition and belief. For example, it seems that having an intuition with a certain content at least sometimes brings about belief in that content. Some

might say that the simplest way to account for the connection is to identify the two: intuitions just are beliefs. Parallel considerations hold in the case of perception.

Second, suppose that someone were attracted to the view that intuition and perception are constituted by a *grasp* of objective reality (understood factually). Neither perception nor intuition can simply consist in a grasp of reality, however, since both can be false, so the relation between the person and reality cannot be as simple and direct as that.¹ A natural reaction might be to say that intuition and perception are both acquisitions of *beliefs* about reality, since beliefs can be true *or* false. So one thought motivating reduction to belief might be that it represents a small retreat in response to non-veridical intuition and perception.

Third, suppose that someone suggested a new mental kind, a propositional attitude that she claimed had so far been overlooked. It 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, or in combination with other machinery, such as dispositions. Absent this, one would seem justified in denying that the putative new entity were real.²

Belief and desire are propositional attitudes that strike many as having passed such a test. They both seem integral to folk-psychological expla-

¹I 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. Thanks to Anand Vaidya for bringing this reading to my attention. 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). Sosa (2007b: Chapter 3) discusses the fallibility of intuition and factive models.

²Note that this is not a point about burden of proof; it would be equally reasonable 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 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.

nation and prediction, and folk-psychology seems to be a very successful theory.³ Moreover, belief and desire also seem to stand out by being ‘pure’ exemplars of opposite *directions of fit*.⁴ A belief is ‘successful’ if it fits the world, a desire if the world comes to fit it. But 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.

For these reasons one might be tempted to think that other propositional attitudes are reducible to some mix of belief and desire—or at least that such reductions are 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 does 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. So, perhaps intuition and perception are also in this way reducible. Since no role for desire seems to present itself, reduction to belief is the natural choice.

A fourth type of motivation stems from epistemic concerns. Those who believe that intuition justifies belief would like an explanation of why that is so. Many believe that intuition is used as evidence in philosophy, and they might wonder whether an account can be given that validates such use.⁵ But some might think that the only mental state which justifies belief

³My purpose here is to explain a possible source of motivation for a reductive account, not to support (or endorse) this line of reasoning. For opposing views regarding folk-psychology, see e.g. Churchland (1981). Sterelny (2003) is one of many who argues that belief has earned its keep in this way, but is more doubtful about preferences.

⁴See Humberstone (1992) for discussion. Humberstone also traces the historical origins of the terminology.

⁵For 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 will not pursue this here, but it seems to me that Bealer is more naturally understood as claiming that use of intuition as evidence is part of a justificatory procedure that is standard in a wider sense; viz. standard relative to normal human life and inquiry. For arguments that

in a way we understand is belief itself.⁶ So if intuition justifies belief, the natural assumption for someone with this view would be that intuition is itself a belief, and that the account of how it justifies is just the same account as that which applies to belief. So someone with this combination of views would be motivated to attempt to reduce intuition to belief.⁷

Finally, a doxastic account of intuition might also be motivated by broadly *logical* concerns. It might be thought that a reductive account best explains how intuition behaves, how we use it, and so forth.⁸

3 Different Doxastic Views

We can distinguish between different reductive views of intuition in several ways (see Figure 1). First, we can distinguish according to whether the intuition is taken to be reducible to a disposition to have a doxastic mental state, or to the state itself.

Second, we can distinguish according to whether the intuition is thought to be reducible to a doxastic state itself, or to the *acquisition* of a doxastic state. Third, we can distinguish according to whether the doxastic state in question is an all-out belief or a partial belief. Finally, we can distinguish according to what the *content* of the reducing state is. On the one hand, the content of the reducing state could be the same as the content of the intuition; on the other hand, we might arrive at the content of the reducing state by performing a function on the content of the intuition.

intuition is *not* used as evidence in philosophy, see Cappelen (Forthcoming), Earlenbaugh and Molyneux (2009), and Williamson (2004).

⁶See Pryor's discussion of the 'Premise Principle' (2005).

⁷Timothy 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 carries over. Richard G. Heck Jr. (2000: 507–8) spells out this type of motivation for the case of perception.

⁸This motivation is operative in Earlenbaugh and Molyneux (2009). These authors argue for a disposition view, but the motivation applies in either case.

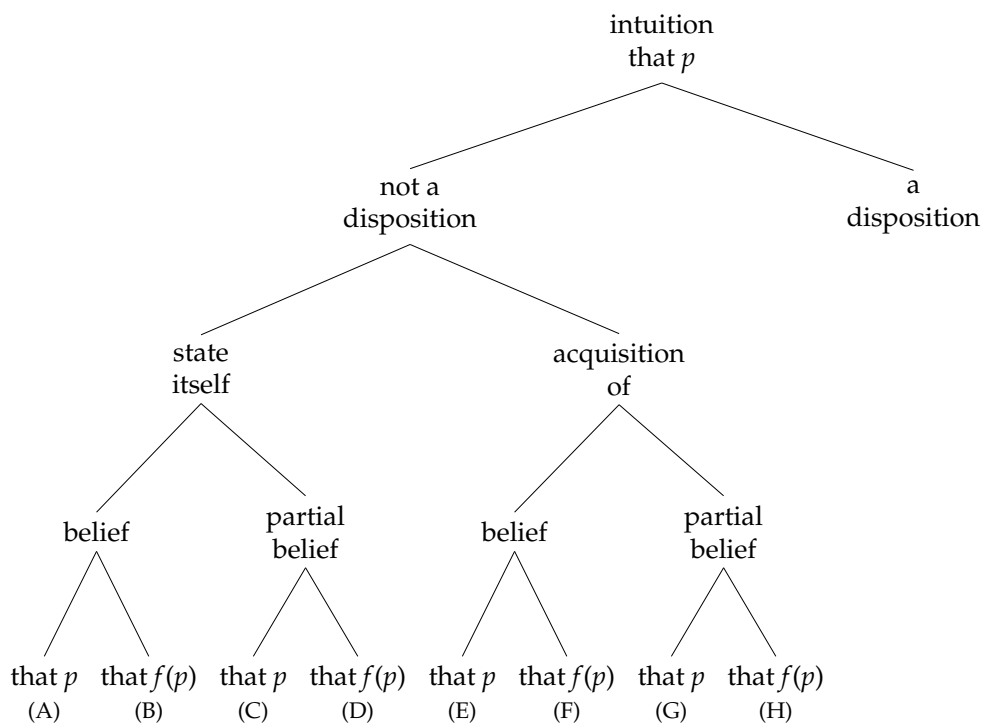


Figure 1: Doxastic Views of Intuition

In this paper I discuss views (A) through (H), which I collectively label ‘doxastic’ views of intuition. Views that belong on the branch that has not been drawn here are left for separate treatment on another occasion.

I argue that a single line of argument deals decisively with all doxastic views. First I argue that the standard case against such views fails.

4 The Standard Case Against Doxastic Views

We begin with views of type (A), views according to which an intuition that p reduces to a belief that p . 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 . Equivalence 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 *intuition* is the same as the concept *belief*. But if any of these views are true, so too is Equivalence, so its falsity establishes the falsity of all these views.⁹

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, that light travels faster than sound, that nothing travels faster than light does, and that if p , then $\neg p$.

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

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.

⁹Absent a reason to think that the properties of intuiting that p and believing that p could be necessarily 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.

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, 2008; Chudnoff 2011; Earlenbaugh and Molyneux 2009; Huemer 2001, 2005, 2007; Kagan 1989; Katz 1981; Plantinga 1993; Pollock 1974; Pust 2000, Forthcoming; Sosa 1996, 1998, 2006, 2007a,b; 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).¹⁰ (Bealer 1998: 208)

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 have the intuition.¹¹ 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 G¹²

¹⁰The same formulation is found in Bealer’s 1992, 1996a and 1996b, and shorter references to the same example are in his 2002 and 2004. In his 2001 Bealer refers instead to “the naïve truth schema” and the Liar Paradox to make the same point.

¹¹For 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).

¹²A 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 throughout. If it is

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.¹³ 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.¹⁴

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

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.

¹³ 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.

¹⁴Further complications are probably necessary to avoid wayward ways of 'being the result of', but here I assume that the story can be completed.

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 a clear weakness of the dialectical situation.¹⁵

The proponent of the view under consideration must claim that some of Bealer's higher-order beliefs are false: 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, Bealer *does* believe that NCA is true. It is just that he *also* believes that it is false.

There is a theoretical cost associated with saying that Bealer's higher-order belief is false. Here, however, the cost is small enough for the view to constitute a significant challenge. Notice, first, that Bealer is not here self-ascribing a mental state. He is saying that he is *not* in a certain mental state. While it is plausible that a person has some kind of authority with respect to which mental states she *is* in, it is less clear that she has authority over which states she is *not* in. Second, *believing that not- p* is

¹⁵I am not suggesting that the lack of argument amounts to 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.

just the kind of thing one could easily misidentify as *not believing that p*.¹⁶ Third, the cost incurred is offset by the motivation for adopting a reductive view (§2). 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 regarding something they intuit as false?

Against this competing view, merely making reference to NCA does not suffice. We need a stronger case.

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.

Given this, the key to demonstrating that Entailment is false is to recognise that agents who hold contradictory beliefs are usually *ipso facto*—that is, for that very reason—rationally criticisable.¹⁷ There may be cognitive

¹⁶Chudnoff (2011) 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 Bealer would overlook a conscious inclination to believe, if he actually has it. I do not find such oversights implausible, but in any case, the oversight here is smaller. 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* versus *believing that not-p*, since there is, *ex hypothesi*, no belief that *not-p* in these cases. A proponent could either deny that there 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 the benefits of the view (§2).

¹⁷I make no claims about blameworthiness.

‘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 implied belief, the agent who intuits NCA and believes not-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 to 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.

Argument from Rational Criticisability:

- (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 not-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 not-NCA do not thereby believe both a proposition and its negation
- (6) So, some who intuit NCA and believe not-NCA do not believe NCA

¹⁸Having a ‘compartmentalised’ 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.

(7) So, it is not the case that whoever intuits a proposition believes that proposition

The premises here are all plausible.¹⁹ (1) is clearly true, and if we are liberal about what counts as ‘special circumstances’, it is analytic. It presupposes that there are 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.²⁰ 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 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.

¹⁹A formal version:

$\forall x \forall y [(Bxy \ \& \ Bx\neg y) \rightarrow (Sx \vee RCx)]$

For all x and y , if x believes y and its negation, then x is shielded or rationally criticisable

$\exists x (IxNCA \ \& \ Bx\neg NCA \ \& \ \neg Sx \ \& \ \neg RCx)$

Some x intuits NCA, believes \neg NCA, and is neither shielded nor rationally criticisable

$\exists x [IxNCA \ \& \ Bx\neg NCA \ \& \ \neg \exists y (Bxy \ \& \ Bx\neg y)]$

So, some x intuits NCA, believes \neg NCA, and believes no pair of a proposition and its negation

$\exists x (IxNCA \ \& \ \neg BxNCA)$

So, some x intuits NCA but does not believe it

$\neg \forall x \forall y (Ixy \rightarrow Bxy)$

So it is not the case that anyone who intuits a proposition believes it

²⁰In other work, I present a systematic account of the phenomenal character of intuition, which vindicates and explains this claim.

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 halfway immersed in water would not look bent to the ideally rational 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 saying 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, as some suggest.²¹ 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-not-NCA.

We might say that *being ipso facto rationally criticisable for* is a *non-monotonic* two-place relation. A two-place 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*

²¹See 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 not-NCA occur under these conditions.

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.²² 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 *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 not-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 contradiction 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.²³ 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 not-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 not-NCA the intuition that NCA is not straight-away relegated to another fragment or compartment.

²²I might be rationally (or aesthetically) criticisable for *going* on a hike while wearing a bowler hat. That is a separate issue.

²³See n. 18 above.

One might instead be tempted to deny (4) by claiming that one *cannot help* believing what one intuitively. 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 restrictions 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 deceased. 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).²⁴ 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.²⁵

Finally, if the reductionist simply insists that having an intuition shields one from rational criticisability without explaining why this should be so, the point being made is merely verbal. The concept of belief in use here does not allow for brute shielding from criticisability. One can be shielded by the contradiction being hard to discover, or by somehow being barred from bringing both beliefs under rational scrutiny together. Perhaps there are even further ways one can be shielded, which do not fit in either of these categories.²⁶ But if there are, we require an explanation

²⁴Thanks to Weng Hong Tang for this example.

²⁵It 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. (Thanks to John Bengson for noting this point.) 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 in the text seem to show 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 agents what is rationally required; they are just in some sense unable to comply.

²⁶Gilbert Harman suggests that there may be situations where “the best response [to discovering an inconsistency in one's beliefs] may be to keep the inconsistency and try to

of why the shielding occurs. To simply assert that it does is to change the subject. Premise (4) is true.

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.²⁷

*

The standard case against doxastic views claims that certain 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 intuitions are beliefs entails that people are rationally criticisable in situations where they are not, and that it must therefore be rejected. The Argument from Rational Criticisability thus differs sharply from the standard case.

The argument was presented in terms of views of type (A), which say that an intuition that p is reducible to a belief that p (together with the obtaining of some other condition—I leave this implicit hereafter). But the argument generalises immediately to views of type (E), which say that an intuition that p is reducible to the *acquisition* of a belief that p .²⁸ If an agent who believes that *not- p* intuits that p , and if she 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 that she does not. So the

avoid inferences that exploit it" (1986: 15). This claim is orthogonal to the issue at hand, since being rationally criticisable for holding obviously contradictory beliefs is consistent with the best response all things considered being to not revise one's beliefs.

²⁷An 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 not-NCA. In any case, all the above argument requires is that *some* agent concurrently intuits NCA and (for whatever reason) believes not-NCA. So this alternative strategy does not compete with the one presented here; at most it complements it.

²⁸Views of this type were advanced by David Armstrong and George Pitcher for perception.

intuition that p is also not reducible—wholly or in part—to the acquisition of a belief that p .

6 Perception, Belief and Rational Criticisability

In the sixties and seventies David Armstrong and George Pitcher developed analogous views of perception to the positions about intuition we have just been discussing:

[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)

Perceptual experiences believed to be illusory constitute an obvious challenge for theories of this kind. In such situations, the perceiver believes that her perceptual experience is at least partly inaccurate.

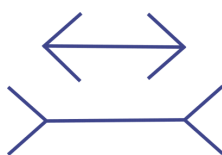


Figure 2: Müller-Lyer figure

In this well-worn example, the two lines appear to be of different lengths, but are not. A perceiver who has measured the lines (say), does not believe that they of different lengths. Another useful example is looking at a wall one believes to be white through glasses which one believes have blue lenses (Jackson 1977: 39-49).

Perceptual experiences believed to be illusory need special attention from the perception-as-belief theorist. The perceiver does not believe what she sees, so how can perception simply be the acquisition of belief?

As before, however, this does not yet constitute a counterexample to the thesis that to perceive that p is to acquire the belief that p . For Armstrong and Pitcher *could* have said that when a subject perceives the lines she acquires the belief that they are of different lengths, while still believing that they are of the same length. In the case of the wall, the perceiver believes that the wall is white. Armstrong and Pitcher could have claimed that she acquires the belief that the wall is blue while still believing that it is white. Why do they not claim this? Why *should* we not make these claims?

The answer is that the account would then yield the verdict that subjects are rationally criticisable in situations where we know they are not. If a perceiving subject acquired beliefs corresponding to the contents of her perceptual experiences she would believe, for example, both that the lines are of equal length and that they are not, and both that the wall is blue and that it is not. But then she would be *ipso facto* rationally criticisable, because whatever the circumstances are in which subjects are shielded from criticisability, these are not among them. But a person subject to an illusion is *not ipso facto* rationally criticisable for having the perceptual experience she does have while believing that it is illusory in certain respects. So the subject does not acquire a belief with the content of her perceptual experience.

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 hier-

archy, with belief on the highest level.²⁹ 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 arises when a conflict between states on the same level is not resolved by a state on a higher level. It does *not* arise when states on 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 use the observation that these agents are not rationally criticisable. We can be confident that that is right.

7 Partial Belief

In response to known illusions both Armstrong and Pitcher develop their accounts by saying that perception should sometimes be identified with a partial rather than an all-out belief.³⁰ 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. . . . What is an inclination to believe? I think it is nothing but a belief that is held in check by

²⁹An alternative view has knowledge on the highest level. I do not pursue this here, but it is not too hard to see how such an account would go.

³⁰This is at least the most natural interpretation of their accounts. Nothing here hinges on this question of interpretation: the partial belief view must be considered whether or not Armstrong and Pitcher held it. Both Armstrong and Pitcher go on to discuss a third and *distinct* set of cases, and argue that in those cases, perception is best understood as a *disposition* to believe. I set such views aside here.

a stronger belief. We acquire certain beliefs about the world by means of our senses, but these beliefs are held in check by stronger beliefs that we already possess. So there is nothing here that is recalcitrant to an analysis of perception in terms of the acquiring of belief. (Armstrong 1968: 221)

And Pitcher writes that, when background beliefs cause an agent to be “suspicious” of what she perceives, she “half-believes, or ... is inclined ... to believe” it (1971: 91–2).

The solution Armstrong and Pitcher are proposing is that the content of the perception is given by the content of a partial belief, acquired on perceiving the illusion. The partial belief is not what we *believe* all things considered—other and stronger partial beliefs outweigh the one acquired through perception—but the correspondence between the content of perception and the content of an acquired belief is still maintained.³¹

One might think that a parallel move could work for intuition. I first show why this manoeuvre fails for the Armstrong/Pitcher line and then make the parallel point for intuition.

To simplify the presentation, let us for the moment understand a partial belief as a *credence*. This is not essential to the argument. We could make the points I make below using the simple facts that partial beliefs must come in different strengths: that some of them must be fairly weak, and that some must be fairly strong. Armstrong (and Pitcher) are committed to this: if a partial belief is to ‘hold in check’ another partial belief, it must be that the former is significantly stronger than the latter. But talking in terms of credences makes things easier.

A credence is a degree of belief, and the strength of a credence can be specified by numbers in the real interval $[0,1]$, where 0 indicates certainty

³¹One could also speak in terms of middling credences. It is not clear that a framework that uses credences also needs a notion of all-out belief (Tang 2009). In the main text I speak as if a notion of all-out belief is needed, but my claims can easily be reformulated if required: we could say that the credences acquired through perception are not those we will act on, for example.

that a proposition is false and 1 indicates certainty that it is true. On some usages, a person's credences by definition obey the probability axioms. We will not use the term in this way here.

Now, in some cases where we disbelieve our perceptual experience, we do so because of something about the experience itself. The heat illusion experienced in a desert is an example of this: a distant rock might look like it is subtly undulating, but we do not believe that it is. In many other cases, however, when we disbelieve our perceptual experience, it is because of some other fact. In the case of the Müller-Lyer figure, for instance, when I do not believe that the lines are of different lengths it is because I have measured them. Similarly, if I am looking at an oar which is partially immersed in water, and do not believe that it is bent, often I fail to believe this because of something that is not in the experience itself. There need be nothing in the experience itself which alerts me to the illusion: everything about the way things look can be perfectly ordinary.

It seems reasonable to impose a constraint on views that identify perception with the acquisition of a partial belief. The constraint is that when there is nothing about the perceptual experience itself which would make one think that it is illusory—when the experience itself is like the Müller-Lyer lines or the oar halfway immersed in water, and not like the rock in the desert—then the credence with which the perception is to be identified cannot be very low. Indeed, a stronger constraint is reasonable: if nothing about the experience itself seems 'not quite right', the credence should be *high*. But we only need the weaker version.

My credence that the lines in Figure 2 are of different lengths might be very high indeed. I may have measured them many times, asked others for corroboration, and so on. Similarly, an agent looking at an oar halfway immersed in water may have encountered similar situations in the past, and may in those situations have run his hand along the oar and into the water, placed another object alongside it, and so on. His credence that the

oar is straight will then be very high. But that means that, on the account under consideration, the agent would have credences in two contradictory propositions adding up to more than one. On standard views of rational constraints on credences he would then be rationally criticisable. But we know he is not. And that means that perception cannot be reduced to a partial belief in what is perceived.

*

Let us now turn to the case of intuition. Here 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 having some credence in the proposition that p without intuiting that p .³² But perhaps intuiting that p implies having a credence that p , *and* the obtaining of some other condition:

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

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.

And Entailment (credence) fails in analogous ways to how we saw that Entailment fails. To bring this out we make the following assumption:

Correspondence: If an intuition is to be identified with a credence, whenever the intuition is *strong* the credence must not be very low

³²That the economy will improve, that there is intelligent life on other planets, etc.

As in the case of perception, a stronger constraint would be reasonable: when the intuition is strong it would be reasonable to demand that the credence be *high*. But we only need the weaker version.

Consider again the case of NCA, discussed above. Many people have a strong intuition with that content. Fix on such an agent, and assume about her, also, that she knows and understands the proof which shows that NCA is false.

If Entailment (credence) is true, she will, given Correspondence, have a credence in NCA which is not very low. But she also has a very high credence in not-NCA: after all, she knows and understands the proof which shows this. But then she comes out as rationally criticisable, just as agents do under the assumption that intuition reduces to all-out belief. Agents who have credences that add up to more than 1 in contradictory propositions are on standard views *ipso facto* rationally criticisable.³³ But we know that this agent is *not* rationally criticisable. So Entailment (credence) is false.

Given that it is safe to assume that the agent's credence in not-NCA is very high, the credence with which the intuition that NCA is to be identified must be very low if this conclusion is to be avoided. But this fits very poorly with the point that the intuition in question is *strong*. So views of this kind fail.

We can make this point in a different way, by making the following plausible assumption:

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

Consider an agent who considers NCA for the first time, and to whom it seems true. On the view under consideration, her intuition is to be iden-

³³Unless they are shielded. We bracket this here, but see the defence of premise (4) in the Argument from Rational Criticisability above.

tified with a credence in NCA. So she has some credence in that proposition, but also (let us assume) some credence in not-NCA. Now she learns the proof of Russell's Paradox. It is incredible, surely, that her credence in not-NCA does not rise. But then the agent will either become rationally criticisable, or No Change will be violated. For learning the proof does not change how things *seem*. The analogous point holds, *mutatis mutandis*, in the case of perception.

*

So far we have considered views of type (C), which say that an intuition that p is reducible to a partial belief that p (together with the obtaining of some other condition). But the argument generalises to views of type (G), which say that it is reducible to the *acquisition* of a partial belief 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 thereafter 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 partial belief that p .

8 Doxastic Attitudes with a Different Content

So far we have considered views which attempt to reduce an intuition that p to a belief or a partial belief *that* p , or to the acquisition of such a belief or partial belief. But what about views according to which intuition is to be identified with a belief or a partial belief *that* q , or to the acquisition of such a belief or partial belief? The Argument from Rational Criticisability uses 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 application 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 in some proposition q . To be even remotely plausible, such suggestions must hold that q is a function of p : $f(p)$. But *regardless* of what we take q to be, and therefore regardless of what the function f is, one can intuit that p while believing that *not- q* (that *not- $f(p)$*) without incurring *ipso facto* rational criticisability. So such proposals fail, *with complete generality*.

Consider, for instance, the suggestion that an intuition that p is reducible to the belief *I have some reason to believe that p* .³⁴ Suppose that I believe that there are no such things as reasons. I deduce from this that (*a fortiori*) there are no reasons to believe that p , and so that 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.

As in the other cases we have seen, this argument applies equally to the case of perception. I can just as much combine my experience of an oar halfway immersed in water with the belief that the oar does not look bent to me as I can combine it with any other belief, and without incurring

³⁴A position very much like this one was advanced by Christian Nimtz at the 'Armchair in Flames' workshop at the University of Cologne in September 2008.

ipso facto rational criticisability.³⁵ 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. Reduction of perception to a belief fails in the case of perception also, and with complete generality.

Returning to the case of intuition, imagine that someone objected in the following way. “It is true that you can intuit that p and hold some belief which you would *express* by saying ‘I have no reason to believe that p ’, yet still not be rationally criticisable. But no one really believes that there are no reasons. So even if you profess to believe that there are no reasons, that is not something you actually believe. You simply have some other belief, and express it badly. So you do not have the ingredients you need to establish your conclusion.”

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. If that is so, why should I not be able to believe that *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 as I intuit that p I can *correctly* believe that *not- q* , that I have no reason to believe that p , for example. Maybe intuiting that p always in fact gives me a reason to believe that p . But that I cannot *correctly* believe that *not- q* is no bar to my believing that *not- q* . No matter what the belief q is, I am never *ipso facto* rationally criticisable for intuiting that p and believing that q . Therefore, for any q which the reductionist wishes to use, so long as I am capable of believing that *not- q* , I can come to be in a position in which the reductionist is committed to say-

³⁵The argument is thus independent of whether perception has ‘naïve semantics’ or ‘phenomenal’ semantics (Glüer 2009).

ing that I am *ipso facto* rationally criticisable, but in which we know that I am not (and this is so whether or not I can correctly believe that *not-q*).

I am never *ipso facto* rationally criticisable for intuiting that *p* and believing that *not-q*. *A fortiori*, I am not *ipso facto* rationally criticisable for intuiting that *p* and believing that *not-f(p)*. If intuiting that *p* entailed believing that *f(p)*, however, I would be *ipso facto* rationally criticisable. So intuiting that *p* does not entail believing that *f(p)*.

This shows that views of type (B) fail. Applying reasoning we have already gone through we see that intuiting that *p* does not entail *acquiring* the belief *f(p)* (type F), or having or acquiring a partial belief that *f(p)* (types D and H). This completes the case against doxastic views.

9 The Significance of Rational Criticisability

The standard case against doxastic views *starts from* the existence of cases of intuition without belief. When what is at issue is the nature of intuition, this case is dialectically ineffective. Those who think that intuition is reducible to belief have little reason to accept the cases as described.

By contrast, the Argument from Rational Criticisability yields the existence of cases of intuition without belief as its conclusion. It makes use of the strong intuition that agents are not *ipso facto* rationally criticisable for intuiting that *p* and believing that *not-p*. This intuition is not itself about the nature of intuition: it is about rationality. It can therefore better support a conclusion about the nature of intuition than can the simple assertion that in the cases in question there is no belief. From it, an *argument* leads to the conclusion that intuition cannot be reduced to belief.

Moreover, that argument withstands scrutiny and challenge, for instance from the claim that the real explanation for the absence of rational criticisability is that an intuition is a belief one cannot help having (reply: rational criticisability is not subject to such ought-implies-can restrictions)

and from the claim that the prediction of criticisability is correct and explained by the agent's being criticisable simply for having the intuition (reply: even if an agent were criticisable simply for having the intuition, she would not be *ipso facto* criticisable for having the intuition and believing its negation, since *ipso facto* rational criticisability is non-monotonic). And it generalises not only to all attempts to reduce intuition to belief, but to all attempts to reduce perception to the same.

This reasoning is, I believe, revelatory of the nature of intuition and perception, and of their rational roles, in a way that goes beyond the mere production of counterexamples (cf. Bratman 1987: 20). Rationality makes demands on our doxastic attitudes, *inter alia* on their coherence.³⁶ But it makes no such demands on the mere combination of an *experience* with a doxastic attitude. There is no belief which combined with an experience renders a subject *ipso facto* rationally criticisable.³⁷

For example, 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 confusion between the experience itself and behavioural dispositions that often go along with it. If I firmly believe that the spider

³⁶Some 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. 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, it seems that I am usually thereby rationally criticisable. 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 'exculpations'" Heck (2000: 500–1). But note that this is not a requirement simply on the combination of the belief and the experience; it is a constraint on *adopting* a belief on the basis of having an experience.

³⁷Rationality also does not require coherence between what a person supposes for the sake of argument and what she believes. I take it for granted that to intuit or perceive that *p* is not to suppose for the sake of argument that *p*. For one, supposing for the sake of argument that *p* does not justify belief that *p*, not even apparently.

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 I may not act in such a way. If I do not, it is clear 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, both for intuition and for perception, that the Argument from Rational Criticisability extends 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 perception or my intuition renders me *ipso facto* rationally criticisable. That is precisely the characteristic which applies paradigmatically to experiences. This suggests a deep similarity in nature between perception and intuition: perception and intuition are experiences.

The fact that it is the absence of rational criticisability which shows that doxastic views of intuition and perception fail moreover suggests a general lesson about the basic nature of the mind. One might have thought that in order to discover the mind's basic architecture, we need only attend to functional matters. The reasoning in this paper suggests that this is not so. To complete this project we must, in addition, pay attention to *normative* matters, since the mind is not a purely functional system, but essentially a normative one.

References

- Armstrong, David M. 1968. *A Materialist Theory of the Mind*. Routledge.
- Bealer, George. 1992. "The Incoherence of Empiricism". *Proceedings of the Aristotelian Society, Supplementary Volume* 66: 99–138.
- . 1996a. "On the Possibility of Philosophical Knowledge". *Philosophical Perspectives* 10: 1–34.
- . 1996b. "A Priori Knowledge and the Scope of Philosophy". *Philosophical Studies* 81: 121–142.
- . 1998. "Intuition and the Autonomy of Philosophy". In DePaul and Ramsey (1998), 201–239.
- . 2001. "A Theory of the A Priori". *Pacific Philosophical Quarterly* 81: 1–30.
- . 2002. "Modal Epistemology and the Rationalist Renaissance". In *Conceivability and Possibility*, edited by Tamar Szabo Gendler and John Hawthorne. Oxford University Press, 71–126.
- . 2004. "The Origins of Modal Error". *Dialectica* 58: 11–42.
- . 2008. "Intuition and Modal Error". In *Epistemology: New Essays*, edited by Quentin Smith. Oxford University Press.
- Bratman, Michael E. 1987. *Intention, Plans, and Practical Reason*. Harvard University Press.
- Cappelen, Herman. Forthcoming. *Philosophy Without Intuitions*.
- Chudnoff, Elijah. 2011. "What Intuitions Are Like". *Philosophy and Phenomenological Research* 82: 625–654.

- Churchland, Paul M. 1981. "Eliminative Materialism and the Propositional Attitudes". *The Journal of Philosophy* 78: 67–90.
- Cummins, Robert. 1998. "Reflection on Reflective Equilibrium". In DePaul and Ramsey (1998), 113–127.
- DePaul, Michael, and William Ramsey, eds. 1998. *Rethinking Intuition: The Psychology of Intuition and Its Role in Philosophical Inquiry*. Rowman & Littlefield.
- Earlenbaugh, Joshua, and Bernard Molyneux. 2009. "Intuitions are inclinations to believe". *Philosophical Studies* 145: 89–109.
- Glüer, Kathrin. 2009. "In Defence of a Doxastic Account of Experience". *Mind & Language* 24: 297–327.
- Goldman, Alvin, and Joel Pust. 1998. "Philosophical Theory and Intuitional Evidence". In DePaul and Ramsey (1998), 179–197.
- Harman, Gilbert. 1986. *Change in View: Principles of Reasoning*. The MIT Press.
- Heck, Richard G. Jr. 2000. "Nonconceptual Content and the "Space of Reasons"". *Philosophical Review* 109: 483–523.
- Huemer, Michael. 2001. *Skepticism and the Veil of Perception*. Rowman & Littlefield.
- . 2005. *Ethical Intuitionism*. Palgrave Macmillan.
- . 2007. "Compassionate Phenomenal Conservatism". *Philosophy and Phenomenological Research* 74: 30–55.
- Humberstone, I.L. 1992. "Direction of Fit". *Mind* 101: 59–83.

- Ichikawa, Jonathan, and Benjamin Jarvis. 2009. "Thought-Experiment Intuitions and Truth in Fiction". *Philosophical Studies* 142: 221–246.
- Jackson, Frank. 1977. *Perception: A Representative Theory*. Cambridge University Press.
- . 1998. *From Metaphysics to Ethics*. Oxford University Press.
- Kagan, Shelly. 1989. *The Limits of Morality*. Oxford University Press.
- Katz, Jerrold J. 1981. *Language and Other Abstract Objects*. Rowman and Littlefield.
- Lewis, David. 1982. "Logic for Equivocators". *Noûs* 16: 431–441.
- . 1983. *Philosophical Papers, Volume I*. Oxford University Press.
- . 1986. *On the Plurality of Worlds*. Blackwell.
- Pitcher, George. 1971. *A Theory of Perception*. Princeton University Press.
- Plantinga, Alvin. 1993. *Warrant and Proper Function*. Oxford University Press.
- Pollock, John. 1974. *Knowledge and Justification*. Princeton University Press.
- Pryor, James. 2005. "There Is Immediate Justification". In *Contemporary Debates in Epistemology*, edited by Matthias Steup and Ernest Sosa. Blackwell, 181–202.
- Pust, Joel. 2000. *Intuition as Evidence*. Garland Publishing.
- . Forthcoming. "Intuition". In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta. (Draft of April 2011).
- Sainsbury, R.M. 1987/2003. *Paradoxes*. Cambridge University Press.

- Sober, Elliot. 1982. "Why Logically Equivalent Predicates May Pick out Different Properties". *American Philosophical Quarterly* 19: 183–189.
- Sosa, Ernest. 1996. "Rational Intuition: Bealer on Its Nature and Epistemic Status". *Philosophical Studies* 81: 151–162.
- . 1998. "Minimal Intuition". In DePaul and Ramsey (1998), 257–269.
- . 2006. "Intuitions and Truth". In *Truth and Realism*, edited by Patrick Greenough and Michael P. Lynch. Oxford University Press, 208–226.
- . 2007a. "Intuitions: Their Nature and Epistemic Efficacy". *Grazer Philosophische Studien* 74: 51–67.
- . 2007b. *A Virtue Epistemology: Apt Belief and Reflective Knowledge, Vol 1*. Oxford: Oxford University Press.
- Stalnaker, Robert C. 1984. *Inquiry*. MIT Press.
- Sterelny, Kim. 2003. *Thought in a Hostile World*. Blackwell.
- Tang, Weng Hong. 2009. "Belief and Credence". Ph.D. thesis, The Australian National University.
- van Inwagen, Peter. 1997. "Materialism and the Psychological-Continuity Account of Personal Identity". *Noûs* 31: 305–319.
- Williamson, Timothy. 2004. "Philosophical 'Intuitions' and Scepticism about Judgement". *Dialectica* 58: 109–153.
- . 2007. *The Philosophy of Philosophy*. Blackwell.