

# A new argument for the rationality of perception

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Everyone agrees that *beliefs* based on perceptual experiences can be rational or irrational. But in this paper, I offer a new argument for what I will call the *perceptual rationality thesis*: the claim that *perceptual experiences themselves* can be rational or irrational.

In her book *The Rationality of Perception*, Susanna Siegel has offered several intertwined arguments for this same thesis, and, as you will see, one of Siegel's arguments is what inspires my own. This argument of Siegel's relies on the premise that perceptual experiences can be the outputs of inferences (§1).<sup>1</sup> However, I will show that Siegel provides little support for this premise (§2). By contrast, my new argument relies on the premise that perceptual experiences can contain categorizations, and I will suggest that the empirical support for this premise is substantial (§3-§8).

That said, in the spirit of honest inquiry I cannot commit fully to the perceptual rationality thesis. For many think that there is some special feature of perceptual experiences – perhaps that they are formed subpersonally, or that they are not adjustable via deliberation – that blocks them from being rationally appraisable.<sup>2</sup> If this line of resistance is warranted – and, truly, I just do not know whether it is – then even the new argument fails (as does Siegel's original argument) (§9).

Nevertheless, before I arrive at my final assessment of the perceptual rationality thesis, I find it worthwhile to construct the best argument for it that I can. I also find it worthwhile to see precisely which premises of this argument are strongest and which require further scrutiny. I hope that you will share these sentiments.

## 1. Siegel's argument introduced

A central conclusion of Siegel's book, and the focus of this paper, is the following claim:

The *perceptual rationality thesis* (first pass): Perceptual experiences can be rational or irrational. (Siegel 2017, p. 15)<sup>3</sup>

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<sup>1</sup> Ibid, p. 17.

<sup>2</sup> For these objections, see the excellent contributions of Ori Beck and Alison Springle, respectively, to Siegel et al. (2018).

<sup>3</sup> This is half of a thesis that Siegel refers to as the *Rationality of Perception*. The other half of that thesis is that “the processes by which [perceptual experiences] arise can be rational or irrational” (Siegel 2017, p. 15).

But what modality is expressed by the word “can” here? My interpretation is that Siegel is saying that at least some *actual* perceptual experiences are rational or irrational.

My first reason for giving this interpretation has to do with Siegel’s discussion of something that she calls *epistemic charge*. Siegel makes an important claim about epistemic charge, but she phrases that claim in two different ways:

“The *Epistemic Charge thesis*: [Perceptual e]xperiences can be epistemically charged.” (p. 21)

“*Epistemic Charge thesis*: Some [perceptual] experiences are epistemically charged.” (p. 43)

Here, then, Siegel is using the word “can” to express a claim about what some actual perceptual experiences are like.

This is relevant because Siegel makes it clear that the epistemic charge thesis is equivalent to the perceptual rationality thesis. In particular, Siegel explains that she is using the term *epistemic charge* as “a label for the epistemic status that [the perceptual rationality thesis] says experiences can have” (2018, p. 21) – that is, epistemic charge must be the property of being rational or irrational. So Siegel’s perceptual rationality thesis must also be the thesis that some (presumably actual) perceptual experiences are rational or irrational, as per my interpretation.

And I have a second reason for giving this interpretation – for thinking that Siegel’s thesis is that *some actual* perceptual experiences are rational or irrational. The reason is that throughout her book, Siegel’s focus is on cases that seem to be perfectly ordinary. In particular, there are two illustrative cases to which Siegel returns time and again in her book. The first is the case of Jill, a subject who perceptually takes her friend Jack to be angry, not because his face shows any signs of anger, but only because Jill was already afraid that Jack was angry. And the second case is that of Vivek the vain performer, who always perceptually takes faces in the audience to be showing adoration, regardless of how those faces actually look. Moreover, the final section of Siegel’s book focuses on what appear to be politically urgent cases: for example, cases of police officers who misperceive tools in the hands of black subjects as weapons.<sup>4</sup> This further supports the impression that Siegel is making claims about the perceptual experiences of actual, and indeed quite ordinary, human subjects. So Siegel’s thesis is this:

The *perceptual rationality thesis* (final pass): Some actual perceptual experiences are rational or irrational.

For the sake of brevity, I will henceforth drop the word “actual” from this thesis.

But why does Siegel think that this thesis is true? Well, she supports this thesis with many overlapping strands of argument that span at least the first nine chapters of her book. For instance, one strand focuses on the idea that the

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<sup>4</sup> Siegel (2017, p. 174).

perceptual rationality thesis offers a unified epistemological analysis of a wide range of cases<sup>5</sup>; another strand focuses on the claim that perceptual experiences are part of the subject's outlook<sup>6</sup>; and yet another strand focuses on the idea that perceptual experiences can be the outputs of inferences.

Of course, I cannot discuss all of this here, and in any case it is important to tease apart these different strands. So in this paper I will discuss the first strand only briefly (§8), and I will set aside the second strand entirely. My focus will be on the last strand of argument, which is especially central to Siegel's thinking. Here are some of Siegel's statements of the pieces of this argument:

1. "If perceptual experiences can arise from inference, then the Rationality of Perception is true." (p. 19)
2. "The Rationality of Perception says that perceptual experience can arise through covert, silent, unreflective inference ...." (p. 17)
3. "perceptual experiences ... can be rational or irrational." (2017, p. 15)

Suppose that we mildly regiment these remarks while interpreting the modal "can" in the way described above. Then we arrive at:

Siegel's *argument from inference*:

- I1. If a perceptual experience is the output of an inference, then that perceptual experience is rational or irrational.
- I2. Some perceptual experiences are the outputs of inferences.
- I3. Some perceptual experiences are rational or irrational.

Let us see how Siegel applies these ideas to the case of Jill – who, recall, perceptually takes her friend Jack to be angry, not because his face shows any signs of anger, but only because Jill was already afraid that Jack was angry. Siegel's idea is that Jill begins with certain perceptual inputs, such as Jill's perceptual experience, or proto-experience, of the colors and shapes of Jack's facial features. Jill then carries out an inference that begins with these perceptual inputs, together with her fear that Jack is angry. The inference which yields a final (and more complete, if you will) perceptual experience – an experience that includes Jill's perceptual inputs but also treats Jack as angry. And the experience is irrational because the inference is a bad one.<sup>7</sup>

Is Siegel's argument from inference a good one? The argument is obviously valid, and its conclusion, I3, is simply the perceptual rationality thesis. What I propose to do is just grant I1 for the sake of argument so that we can give I2 a thorough examination.

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<sup>5</sup> See for example Siegel (2017, p. 11).

<sup>6</sup> For example, in one section Siegel "develops the idea that a mental state has a rational standing because it belongs to the subject's outlook" (2017, p. 38; note that Siegel is here describing what she is doing on pp. 41-51).

<sup>7</sup> See Siegel (2017, pp. 117-119).

## 2. An objection to I2

The premise that we are scrutinizing is:

- I2. Some perceptual experiences are the outputs of inferences.

Why think that I2 is true?

To begin with, it is clear that Siegel means to argue that there is no metaphysical obstacle to the truth of I2. For instance, here is Siegel's own summary, at the start of Chapter 6, of the central results of previous chapters: "I have argued so far that inferential routes to experience are not precluded either by the nature of inference (Chapter 5) or by the nature of experience (Chapter 3)" (p. 107). And, indeed, in chapters 3 and 5 Siegel considers many metaphysical claims about the natures of experiences or inferences. And, for each such metaphysical claim, Siegel's strategy is to argue either that it is false, or that it is perfectly compatible with the claim that some experiences are the outputs of inferences.

Now, suppose for the sake of argument that Siegel is right about this: suppose that inferential routes to experience are not precluded either by the nature of inference or by the nature of experience. Still, I think that this claim is, by itself, very poor evidence for I2, which tells us that some perceptual experiences *really are* the outputs of inferences. By analogy, consider the claim that there is nothing in the nature of pigs or in the nature of wings to preclude the possibility of pigs with wings. This claim is true. But that claim is, by itself, very poor evidence for that claim that some pigs *really do* have wings. It is only good evidence for the claim that *it is metaphysically possible* for pigs to have wings.

So Siegel needs much more evidence if she is to arrive at I2, the claim that some *actual* perceptual experiences are the outputs of inferences.

And it initially appears that she has further evidence of this sort. For she seems to suggest that there are many actual psychological phenomena that result in perceptual experiences that are similar in all relevant respects to paradigmatic processes of inference. Most notably, Siegel discusses certain actual psychological phenomena involving memory color (pp. 100-106) and race-based categorization (pp. 9-11 and 174-180). This, you might think, is precisely the kind of evidence that Siegel needs to complete the case for I2.

On closer examination, however, it becomes clear that Siegel is *not* arguing that either memory color or race-based categorization are in fact cases of perceptual experiences formed by inference.

This is especially clear when it comes to the phenomenon of memory color, in which (e.g.) objects that have the shape and texture of a banana are perceived as more yellow than they otherwise would be. Here is what Siegel tells us: "... there are in principle different interpretations of these experimental results [regarding memory color].... I'm going to assume that [stored information] influences perceptual experience, so that we can explore the idea that those experiences result from an inference" (2017, p. 101). From these remarks, it is clear that Siegel is merely considering what we should say *if* memory color involves perceptual experiences that are formed by inference. She is giving no arguments

at all that memory color *really does* involve perceptual experiences that are formed by inference.

We find something similar when we examine Siegel’s discussion of race-based categorization. Here Siegel is considering experiments in which subjects first briefly see either a black face or a white face. Then the subjects briefly see an object and must identify it either as a gun or as a tool. Subjects who initially see a black face are more likely to misidentify tools as guns than subjects who initially see a white face.

Siegel mentions that “there are many possible ways in which [these subjects] might in principle, arrive at their misclassification” (p. 9), and she lists seven such possibilities. Many of these possibilities do not involve perceptual experiences that are formed by inference; they instead involve, e.g., errors purely at the level of belief or purely at the level of action. Indeed, in fn. 6 on p. 10, Siegel identifies an option that she takes to be the *best* explanation of what is going on in such cases – but this explanation appeals only to a background state that directly causes the subject’s behavior, while largely ignoring the subject’s perceptual experience. The explanation certainly makes no appeal to perceptual experiences that are formed by inference. So here, too, Siegel is clearly not even attempting to make an empirical case for I2, the claim that some perceptual experiences are formed by inference.

Finally, Siegel does eventually argue that certain race-based attitudes are not merely the products of *minimal associations*, like the association between the word “salt” and the word “pepper” (2017, p. 177-180). But she makes no attempt to argue that these race-based attitudes are the outputs of inferences in particular.<sup>8</sup>

In sum, Siegel’s argument for I2 does not rest on any empirical evidence at all. It rests solely on the claim that there is no metaphysical fact – nothing in the *nature* of perceptual experiences or inferences – to preclude perceptual experiences from being the outputs of inferences. But even if this is true, we should conclude only that it is metaphysically possible for perceptual experiences to be the outputs of inferences. We should not yet accept I2, which claims that some *actual* perceptual experiences are the outputs of inferences.

For this reason, I believe that Siegel’s inferential argument for the perceptual rationality thesis is not a strong one. But that does not mean that I am hostile to the perceptual rationality thesis itself. On the contrary, I wish to offer a new argument for that thesis – an argument that is structurally identical to Siegel’s argument, but that is also substantively stronger.

### 3. A new argument: overview

Below is my new argument for the perceptual rationality thesis. Italics are used to flag the key departures from Siegel’s argument:

The *argument from categorization*:

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<sup>8</sup> There are other cases throughout the book in which Siegel mentions empirical results without taking any stand on how they are to be interpreted. See for example Siegel (2017, p. 153).

- C1. If a perceptual experience *contains a categorization*, then that experience is rational or irrational.
- C2. Some perceptual experiences *contain categorizations*.
- C3. Some perceptual experiences are rational or irrational.

What are categorizations? Well, when we perceive things, we often go on to apply *concepts* to those things. For example, when you look around your office, you might see books, papers, and pens, and if you do then you will likely go on to conceptualize these objects *as* books, papers, and pens. I am using verbs like *categorizing* to refer to this process of conceptualizing what we perceive, and I am using the noun *categorization* to refer to the result of such a process. It is controversial whether categorizations sometimes occur within perception proper or whether they occur only at post-perceptually, and merely using the term *categorization* does not commit you to any stance on this issue.

I emphasize that my aim in the rest of the paper is not to show that the new argument is sound. Instead, I just want to show that the new argument is a significant improvement on Siegel's original argument. I will start by showing that C1 is at least as plausible as I1. And then, in contrast to what Siegel does for premise I2, I will offer substantial empirical support for the new premise C2.

#### 4. The new argument examined, part 1

Recall that Siegel's original argument begins with this premise:

- I1. If a perceptual experience is the output of an inference, then that perceptual experience is rational or irrational.

And I did not scrutinize this premise; I simply granted it for the sake of argument. Now, my argument relies instead on this premise:

- C1. If a perceptual experience *contains a categorization*, then that experience is rational or irrational.

In this section, I will argue that C1 is at least as plausible than I1.

To begin with, I believe that the positive motivation for I1 would equally support C1. So that we can appreciate this point, let us separately consider the two central models of categorization: as inferential or as recognitional.

On the *inferential model*, categorization is simply the result of an inference, one that begins with perceptual inputs and ends with a conceptual output. Now, notice that I1 is plausible only insofar as you think, first, that inference is a rationally appraisable process, and, second, that the output of a rationally appraisable process will itself be rational or irrational. But if you think these things, while also thinking that categorization is the result of inference, then you are committed to thinking that categorizations are rational or irrational.

Now turn to the second central model of categorization, which I will call the *recognitional model*. The idea is that perception makes us aware of certain worldly entities, and we have capacities to identify certain types of worldly entities under certain perceptual conditions. A categorization occurs whenever we

exercise those capacities – whether successfully or unsuccessfully. When we exercise those capacities successfully, we *recognize* those worldly entities as falling under the concept. However, when we exercise those capacities unsuccessfully, we merely *seem* to recognize those worldly entities as falling under the concept.<sup>9</sup>

The crucial point is that even given the recognitional model of categorization, we should accept C1 *if* we accept I1. For it is plausible that there are still rational and irrational ways of responding to one’s perceptual input – in this case, worldly entities. It would plainly be irrational for me, upon seeing a desk under perfectly normal conditions, to categorize it as a zebra, while it would be perfectly rational for me, upon seeing a cleverly painted horse, to categorize it as a zebra. In one case, I am applying concepts in a way that is totally insensitive to my perceptual inputs, while in the other case I am showing great sensitivity to my perceptual inputs (even though I end up misapplying my concept of a zebra). So, if we accept I1 – on the grounds that rational appraisable processes will have rational or irrational outputs – then again we should accept C1.

Now, I concede that there is an important type of objection to C1. But I will suggest that there is a parallel type of objection to I1, and that the responses to objections of this type would be the same in either case. So in my view I1 and C1 stand or fall together.

The objection is this. Perhaps there are some kinds of *epistemic* assessments that we can make of perceptual experiences (if we are discussing I1) or categorizations contained within perceptual experiences (if we are discussing I2). But there is some special feature of perceptual experiences, or of categorizations contained within perceptual experiences, that prevents them from being assessable as *rational or irrational* in particular. For example, perhaps perceptual experiences or perceptual categorizations are formed subpersonally, or passively, or in ways that are not revisable by deliberation. And perhaps one or more of these features blocks perceptual experiences or perceptual categorizations from being rational or irrational.

In her defense of I1, Siegel addresses objections of these sorts in detail.<sup>10</sup> And in each case, her strategy is to argue either (i) that having the feature in question does not block something from being rational or irrational, or (ii) that some perceptual experiences do not have the feature in question. For example, Siegel argues that a mental state can be rational or irrational even if it is not revisable by deliberation, since delusive beliefs are irrational even though they cannot be revised by deliberation (2017, pp. 34–35).

Now, in the interests of space I will not examine what Siegel says about each particular feature. I think it will be enough if I make two general observations.

First, in just about every case, Siegel uses strategy (i): she argues that having the feature in question does not block something from being rational or irrational. And this strategy will obviously block the objection from being applied to perceptual categorizations just as much as it will block the objection from being applied to perceptual experiences.

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<sup>9</sup> The recognitional model is endorsed by Millar (2008) and (2018, p. 253); Fish (2009, pp. 67–74); and Brewer (2011, pp. 142–149) and (2018, pp. 109–110).

<sup>10</sup> See especially Siegel (2017, ch. 3).

My second observation is that in those rare cases in which Siegel uses strategy (ii), her points are *at least* as plausible when applied to perceptual categorizations as when applied to perceptual experiences. For example, Siegel is sympathetic to the idea that if a mental state is rational or irrational, then the subject must be able to *disown* that mental state – to cease to rely on it in reasoning and action – even if the subject cannot get rid of the mental state via deliberation (2017, p. 35). And Siegel says that perceptual experiences meet this condition: a subject can cease to rely on a given perceptual experience in reasoning and action. But surely it is equally plausible that the subject can cease to rely on a perceptual categorization (if there are such things) in reasoning and action.

Are there any objections to the new premise C1 that would not carry over to Siegel’s original premise I1? Well, you might worry that Siegel’s original premise is about the *whole* perceptual experience, while my new premise is at best about something that is only a *part* of a perceptual experience, namely, categorizations. And so you might think that Siegel’s original premise is more plausible than mine.

But this isn’t right! Siegel also has in mind perceptual experiences that are formed only partly by inference. In particular, Siegel speaks of distinct “sub-experiences [that] might belong to the same experience” (p. 118). And Siegel’s perceptual rationality thesis is clearly intended to apply to perceptual experiences that comprise both a sub-experience that is formed by inference and a sub-experience that is not formed by inference.

So here is what we have found. To begin with, the core motivation for I1 carries over to C1 – and that is true whether you accept an inferential or recognitional model of categorization. Moreover, the central objections to C1 apply just as well to I1 – and Siegel’s defenses of I1 work just as well for C1. For these reasons, I think that C1 is at least as plausible as I1.

## 5. The second premise of the new argument examined: overview

Siegel’s original argument has this as its second premise:

- I2. Some perceptual experiences are the outputs of inferences.

Siegel defends I2 purely on the basis of:

- I2\*. There is nothing in the nature of perceptual experiences or inferences to preclude perceptual experiences from being the outputs of inferences.

But we have seen a serious objection to this strategy: I2\* supports only a claim about what is metaphysically possible; it does not support a claim about what perceptual experiences are actually like.

Let us see how things go when we consider the second premise of the new argument, which is:

- C2. Some perceptual experiences contain categorizations.

What I want to do is offer a two-part defense of C2. First, mirroring Siegel, I will argue that there is no metaphysical obstacle to the truth of C2. But second, breaking from Siegel's strategy, I will argue that there is promising empirical evidence for C2.

## 6. The metaphysical possibility of perceptual categorization

It is a vexed question precisely *how* categorization actually occurs. In particular, some theorists think that categorization is sometimes *perceptual*, in the sense that it sometimes occurs within perception proper.<sup>11</sup> Others think that categorization is always *non-perceptual*, in the sense that it always occurs outside of perception, e.g., in belief.<sup>12</sup>

Still, regardless of how categorization occurs in actual human beings, I will argue that it is at least *metaphysically possible* for categorization to occur within perception proper. That will constitute the first half of my defense of C2.

Now, there is no obvious contradiction in the idea that categorization can occur within perception proper. Thus, I take it that our default assumption should be that this is a genuine metaphysical possibility, barring some good argument to the contrary. My approach, then will be to rebut some initially plausible arguments against this possibility. And I see three constituencies – phenomenal conservatives, non-conceptualists, and naïve realists – who might offer such arguments.

Start with phenomenal conservatism. To understand the defining commitment of this view, consider the recent controversy over what happens when (and if) we perceive high-level features – for example, when we see a tree *as a pine tree* or hear a sentence *as being in Russian*. The controversy is over whether there is any *proprietary phenomenal character* associated with perceiving high-level features. *Phenomenal liberals* say that there is. For example, a phenomenal liberal might say that there is some phenomenal character associated with an arborist's seeing a pine tree that is something over and above the phenomenal character associated with her seeing the pine tree's various shapes, colors, textures, and so on.<sup>13</sup>

*Phenomenal conservatives* dissent. They think that perceptual phenomenal character is exhausted by the phenomenal character associated with the low-level features (and perhaps objects) that we perceive; if there is such a thing as perceiving high-level features, then this results in phenomenal changes only insofar as it causes changes in which low-level features (and perhaps objects) we perceive.<sup>14</sup> And a phenomenal conservative might think that this commits her to holding that it is metaphysically impossible for categorization to occur within perception proper.

I find it clear that phenomenal conservatism does not weigh against the metaphysical possibility of perceptual categorization. Why not? Because

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<sup>11</sup> See for example McDowell (1994); Brewer (1999); Mandelbaum (2018).

<sup>12</sup> See for example Burge (2010); Block (2014); Millar (2018, pp. 258-259).

<sup>13</sup> See for example Siegel (2006) and (2010); Bayne (2009); Masrour (2011); Fish (2013).

<sup>14</sup> See for example Byrne (2009); Price (2009); Carruthers and Veillet (2011).

phenomenal conservatism is a view about the *phenomenal character* of perceptual experience. And phenomenal conservatives typically agree that the hallmark of phenomenal character is that it *generates an (apparent) explanatory gap*.<sup>15</sup> But my claim is just that it is metaphysically possible for categorizations to occur within perceptual experience, *whether or not there is any phenomenal character – any (apparent) explanatory gap* – associated with such categorizations. And so there is nothing in phenomenal conservatism that speaks against the metaphysical possibility of perceptual categorization.

Indeed, phenomenal conservatives have themselves often pointed out the coherence, and even the plausibility, of such a view. As phenomenal conservatives Carruthers and Veillet put it:

“The initial nonconceptual outputs of early vision are monitored by a whole host of conceptual systems ... the relevant concept is attached to the nonconceptual representation in question and globally broadcast along with it, for other concept-wielding consumer systems to take note of and draw inferences from... [However, from] the fact that a given concept is a constitutive *component* of a phenomenally conscious perceptual state it doesn't follow that the concept makes a constitutive *contribution* to the phenomenal qualities of that state.” (2011, p. 42)

So there is no reason for phenomenal conservatives to reject the metaphysical possibility of perceptual categorization.

But there is a second constituency, namely *non-conceptualists* about perceptual experience, who might think that they are committed to denying the metaphysical possibility of perceptual categorization. For non-conceptualists think that perceptual experiences have *non-conceptual content*. While there are importantly different ways of spelling out precisely what this means, the basic idea is that a subject can have a perceptual state with a particular content *p* whether or not that subject has the concepts required to entertain *p*.<sup>16</sup>

If this view is true, then does that give us a good reason to think that perceptual categorization is metaphysically impossible?

I do not think so. For non-conceptualism is just the view that perceptual experiences *have* non-conceptual content (perhaps necessarily). It is not the view that perceptual experiences have *only* non-conceptual content (perhaps necessarily). So it is perfectly compatible with non-conceptualism to say that a perceptual experience could have *both* a non-conceptual content *p* *and* – layered on top of that, so to speak – a conceptual content *q*. The idea would be that in order to have this perceptual experience, the subject would not have to have the concepts needed to entertain *p*, but she would need to have the concepts needed to entertain *q*.

I would make a similar case to naïve realists. A central commitment of naïve realism is that any perception fundamentally involves *non-representational* awareness. But categorization is evidently *representational*. So, naïve realists might

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<sup>15</sup> For example, phenomenal conservatives Carruthers and Veillet assert that “A property is phenomenal ... only if it gives rise to an explanatory gap” (2011, p. 45).

<sup>16</sup> Evans (1982) introduces the notion of non-conceptual content. See Heck (2000) for a discussion of how precisely this notion might be understood.

reason, they should say that it is metaphysically impossible for categorization to occur within perception proper.

This reasoning is fallacious. Yes, naïve realism says that any perception fundamentally involves non-representational awareness. But naïve realism does not say that any perception, by its nature, does not *also* involve *representational* awareness. And it is this latter claim that would be needed to rule out the metaphysical possibility of perceptual categorization. In other words, it is perfectly consistent for the naïve realist to say that it is metaphysically possible for a perception to involve *both* a primitive form of non-representational awareness *and* a sophisticated form of conceptual, representational awareness.

This point has been recognized by naïve realists for decades. For instance, William Alston writes:

[Naïve realism] simply consists in the insistence that perception essentially involves a mode of cognition of objects that is nonconceptual in character. Moreover it is that mode of cognition that gives perception its distinctive character vis-a-vis other modes of cognition—abstract thought, fantasy, memory, and so on. But this insistence does *not* commit [the naïve realist] to the denial of [the thesis that] ... perception is typically conceptually structured.... Indeed, I accept that ... [w]hen I look out my study window ... I see various parts of the scene *as* houses, trees, etc., employing the appropriate concepts in doing so. (1999, p. 184)

So even naïve realists should agree that there is nothing in the nature of perceptual experience or in the nature of categorization that makes it metaphysically impossible for categorization to occur within perception proper.

That concludes my argument that it is metaphysically possible for categorizations to occur within perception proper. Briefly put, the argument was that this scenario seems to be perfectly coherent, and there is no good reason – not even for phenomenal conservatives, non-conceptualists, or naïve realists – to deny that this is metaphysically possible.

## 7. Some empirical evidence for perceptual categorization

But this does not get us all the way to:

C2. Some perceptual experiences contain categorizations.

What would be especially helpful here is empirical evidence in support of C2. And I think that there is some emerging empirical evidence of this sort.

The empirical evidence that I have in mind has been aptly drawn together by Mandelbaum (2018). In one telling experiment cited by Mandelbaum, subjects were presented with a word, such as “flowers,” and were then shown a series of images. Each image was presented for *just 13 ms*. For comparison, a single blink of the eye takes *at least* 100 ms, so these images were presented for about 1/8 of the time that it takes to rapidly blink your eyes. Moreover, these images were forward- and backward-masked to disrupt any further visual processing. The idea was to ensure that subjects’ visual systems really had only 13 ms to process the images.

Now, for each image presented in this way, subjects had to say whether or not it contained flowers. If the image did contain flowers *and* if subjects correctly noted this fact, then they were presented with two more images, both of which contained flowers, and they had to identify which of these images they had already seen. Astonishingly, despite these remarkable brief presentation times, subjects were able to perform this task at well above chance.<sup>17</sup>

These subjects were presumably performing genuine *categorization* – that is, they were genuinely applying *concepts*. For they had to apply linguistically-presented information – the word “flowers” – to what they perceived, and they then used this information to guide their actions (pressing the “yes” or “no” buttons). The use of a single representation across such varied mental systems is a hallmark of categorization.<sup>18</sup>

Moreover, it seems that this categorization was occurring *perceptually*, rather than cognitively. For feedback processing *even within the visual system* takes about 50 ms to occur, and feedback processing involving cognition proper would take much longer than that. So, given that the presentation times in the current experiment were just 13 ms, there was simply not enough time for this categorization to have been cognitive.

This interpretation is reinforced when we examine overall response times on tasks that can be performed very quickly. For example, in another study subjects were presented with two images of a natural scene for just 20 ms per image. One image contained an animal in a landscape, while the other contained only a landscape. The subject’s task was to saccade to the image containing the animal. Subjects were able to perform this task – which required perceiving, categorizing, and preparing and performing the saccade – in just 120 ms. Again, this is just too little time for the categorization of animals to have occurred cognitively.<sup>19</sup>

This is just a taste of the relevant evidence. I invite the interested reader to refer to Mandelbaum (2018) for a much richer defense.

Now return to:

C2. Some perceptual experiences contain categorizations.

In conjunction with my earlier argument that perceptual categorization is metaphysically possible, I take this empirical evidence to show that C2 is at least a view to be taken very seriously. By contrast, consider Siegel’s original second premise:

I2. Some perceptual experiences are the outputs of inferences.

This premise, as we have seen, is one for which Siegel provides no serious empirical support. That does not mean that it is false, but it seems fair to say that the overall case for C2 is substantially stronger than Siegel’s case for I2.

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<sup>17</sup> These results are from Potter et al. (2014). I am drawing heavily from the summary in Mandelbaum (2018, p. 267).

<sup>18</sup> See Mandelbaum (2018, p. 268).

<sup>19</sup> See Mandelbaum (2018, p. 275).

## 8. Other advantages of the inferential picture

Siegel mentions at least two other advantages of her inferential picture – again, a picture according to which some perceptual experiences are rational or irrational *because they are the outputs of inferences*. What I want to consider in this section is to what extent these advantages accrue to the categorization picture that I have been developing, which says that some perceptual experiences are rational or irrational *because they contain categorizations*.

The first advantage that Siegel finds for the inferential picture is that it explains why certain beliefs are irrational. Return to Jill, who sees Jack and his blank expression, but then – on the basis of her fear that Jack is angry – comes to see Jack as angry. On this basis, Jill ends up believing that Jack really is angry. Siegel finds it plausible that this is irrational.<sup>20</sup> And the inferential picture has the advantage of preserving this plausible idea: it allows us to say that Jill’s belief is irrational because it is formed on the basis of a perceptual experience that is itself irrational.

It should be clear that the categorization picture enjoys the same advantage. For the categorization picture will agree that Jill’s perceptual experience is irrational, so it will be able to give the same explanation for why Jill’s belief is irrational.

But Siegel regards the inferential picture as having a second, related advantage. Siegel introduces this advantage by noting that subjects who are primed by seeing a black face often go on to misclassify tools as weapons. And Siegel lists no fewer than seven different ways that this misclassification could in principle occur. For example, the error might occur because racial attitudes affect the subject’s attention, or cause the subject to make an introspective error, or cause the subject to perceptually experience the tool as a weapon. Siegel then observes, “Many standard epistemologies of experience would classify these cases differently ... [But such an approach] seems blind to an important epistemic continuity” (p. 11). In other words, Siegel thinks that the inferential picture has the advantage of offering an epistemologically unified treatment of cases that intuitively seem to have an important epistemological continuity.<sup>21</sup>

If Siegel is right that these quite different cases intuitively seem to be epistemically continuous, then the categorization picture would not be able to vindicate the intuition as fully as Siegel’s inferential picture.

To be sure, the categorization picture would be able to vindicate the intuition in quite a number of Siegel’s cases. For example, Siegel considers the possibility of a subject who miscategorizes a tool as a weapon because her racial attitudes cause her to distribute her attention in an epistemically poor way. Arguably, this subject’s incorrect categorization is not supported by her evidence – by what is perceptually available to her. So the categorization picture would agree with Siegel that this categorization is irrational. Or, to take another of Siegel’s examples, suppose that the subject categorizes the object as a weapon

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<sup>20</sup> See Siegel (2017, p. 6).

<sup>21</sup> Siegel repeats variants of the unification consideration several times. See for example Siegel (2017, pp. 127 and 169).

because she is too hasty – she does not perceive enough detail to tell whether the object is a weapon or a tool. Again, the subject’s incorrect categorization would not be supported by her evidence, and so the categorization picture would agree with Siegel that this categorization is irrational.

But there are a few cases that the inferential picture, but not the categorization picture, would treat as involving irrational perceptual experiences. In particular, these are cases of perceptual error occurring *prior to categorization*. For instance, suppose that Jill fears that Jack is angry, and her fear causes her to mistakenly perceptually experience Jack’s face as having the low-level features, such as colors, shapes, and textures, that *really would* indicate clenched teeth and narrowed eyes, and so really would be characteristic of anger. The inferential picture can capture the verdict that in this case Jill’s perceptual experience is irrational, while – given that Jill’s perceptual error happens prior to any categorization – the categorization picture cannot. So does Siegel’s inferential picture have an edge here, insofar as it can bring these cases under its umbrella?

I do not think so. For once I reflect carefully on this case, I simply cease to find it particularly plausible (or implausible) that Jill is irrational when she believes that Jack is angry. Yes, Jill’s belief is based on a mistaken perceptual experience, and so her belief falls short of knowledge (even if the belief is somehow true). That is an *epistemic* flaw in her belief. But, if I am just thinking about how the case immediately strikes me, I just do not have any intuitions about whether there is a *rational* flaw in her belief.

Siegel anticipates this response, and she says this in reply:

[This response allows] that it is rational to strengthen the outlook behind the influence on experience, such as Vivek’s vanity or Jill’s fear. It therefore does little to explain away the sense that strengthening fear in response to fear-generated experience is *epistemically* problematic. It leaves that aspect of the problem unaddressed. (2017, p. 69, emphasis mine)

But this response conflates two quite different things: rational flaws and epistemic flaws. Yes, the categorization picture says that there is no rational flaw in Jill’s belief. But, contra Siegel, the categorization *does* identify an epistemic flaw in Jill’s belief: Jill’s belief does not amount to knowledge.

Perhaps Siegel just means to insist that she finds it intuitive that the flaw has to do with rationality in particular, rather than with epistemology more generally. In that case Siegel and I have a clash of intuitions. But perhaps I can add one last remark in an attempt to make progress.

Siegel makes it clear that what drives her intuition here is the apparent structural similarity between Jill’s method of forming her belief and obviously circular methods of forming beliefs: Jill begins with an outlook, the outlook causes a congruent perceptual experience, and the perceptual experience strengthens the outlook. However, a method of belief formation with this structure is not always circular. For example, imagine a subject, Andrew, who has an unusual fear of red lights: the brighter they are, the more frightened Andrew becomes. Andrew sees a red light, which triggers his fear and thereby causes his pupils to dilate. This lets in more red light, which strengthens his fear, even though the brightness of the light remains constant. This case is structurally just like Jill’s. But it is not

*irrational* for Andrew to strengthen his fear. For the process that makes him mistakenly experience an increase in the brightness of the red light – namely, the dilation of his pupils – is *purely causal*; it is not rationally appraisable.

By analogy, then, we should think that Jill's belief is irrational only if her outlook has a *rational* impact on her perceptual experience, rather than a merely causal one. But to assess whether or not this is the case, one thing that we need is empirical information about how Jill's perceptual experience is related to her outlook. And, as we have already seen, Siegel does not provide such empirical information.

Thus I do not see any genuine advantages here for Siegel's inferential picture over the categorization picture.

## 9. Conclusion

Susanna Siegel has offered us the following argument:

- I1. If a perceptual experience is the output of an inference, then that perceptual experience is rational or irrational.
- I2. Some perceptual experiences are the outputs of inferences.
- I3. Some perceptual experiences are rational or irrational.

And I have suggested this new argument for the same conclusion:

- C1. If a perceptual experience *contains a categorization*, then that perceptual experience is rational or irrational.
- C2. Some perceptual experiences contain categorizations.
- C3. Some perceptual experiences are rational or irrational.

Of course, these arguments might both be sound. Still, it is worth asking whether one of these arguments is more promising than the other.

I have suggested that the central motivation for I1 will at least equally support C1, so these premises are roughly on a par. But the important difference between the two arguments is in their second premises. Siegel's only argument for I2 is that there is no metaphysical obstacle to its truth. But even if that claim is true, it is very poor support for I2. By contrast, I have not stopped at arguing that there is no metaphysical obstacle to the truth of C2; I have gone on to sketch some emerging empirical evidence in its favor.

Moreover, Siegel claims that her inferential picture has two important advantages. First, it can explain why it is irrational for Jill to believe that Jack is angry. Second, it can capture what seems to be an epistemic continuity among very different cases of perceptual error. I have argued that that the categorization picture also enjoys the first advantage, and that the second "advantage" is spurious.

In light of these comparisons, I think that the new argument makes a better case for the perceptual rationality thesis than does Siegel's original argument.

But I do not by any means think that the new argument is watertight. For one thing, we shall have to see whether the empirical evidence for C2 holds up.

For another thing, Siegel argues – in defense of I1, and in a way that carries over to C1 – that there is nothing about perceptual experiences that prevents them from being rationally appraisable. But I am genuinely uncertain about whether these arguments of Siegel’s are good, and so I am genuinely uncertain about whether or not the perceptual rationality thesis is correct.

Still, at least the shape of the debate has come into much sharper focus. To my mind, that is real philosophical progress.

## REFERENCES

- Bayne, T. (2009). "Perception and the reach of phenomenal content." *Philosophical Quarterly* 59 (236): 385-404.
- Block, N. (2014). "Seeing-as in the light of vision science." *Philosophy and Phenomenological Research* 89 (1): 560-572.
- Brewer, B. (1999.) *Perception and Reason*. Oxford: Oxford University Press.
- Brewer, B. (2011). *Perception and Its Objects*. Oxford: Oxford University Press.
- Brewer, B. (2018). Review of *The Rationality of Perception*, by S. Siegel. *Journal of Philosophy* 2018: 106-110.
- Burge, T. (2010). *Origins of Objectivity*. Oxford: Clarendon Press.
- Byrne, A. (2009). "Experience and content." *Philosophical Quarterly* 59 (236): 429-451.
- Carruthers, P. and Veillet, B. (2011). "The case against cognitive phenomenology." In *Cognitive Phenomenology*, eds. T. Bayne and M. Montague (Oxford: Oxford University Press), pp. 35-56.
- Evans, G. (1982). *The Varieties of Reference*. New York: Oxford University Press.
- Fish, W. (2009). *Perception, Hallucination, and Illusion*. Oxford: Oxford University Press.
- Fish, W. (2013). "High-level properties and visual experience." *Philosophical Studies* 162: 43-55.
- Heck, R. (2000). "Nonconceptual content and the space of reasons." *Philosophical Review* 109: 483-523.
- Mandelbaum, E. (2018). "Seeing and conceptualizing: Modularity and the shallow contents of perception." *Philosophy and Phenomenological Research* 97 (2): 267-283.
- Masrour, F. (2011). "Is perceptual phenomenology thin?" *Philosophy and Phenomenological Research* 83 (2): 366-397.
- McDowell, J. (1994). *Mind and World*. Cambridge, Mass.: Harvard University Press.
- Millar, A. (2008). "Perceptual-recognitional abilities and perceptual knowledge." In *Disjunctivism: Perception, Action, Knowledge*, eds. A. Haddock and F. Macpherson (Oxford: Oxford University Press), pp. 311-329.
- Millar, A. (2018). "Can perceptual experiences be rational?" *Mind* 127 (505): 251-263.
- Potter, M., Wyble, B., Haggmann, C., and McCourt, E. (2014). "Detecting meaning in RSVP at 13 ms per picture." *Attention, Perception, & Psychophysics* 76 (2): 270-279.
- Price, R. (2009). "Aspect-switching and visual phenomenal character." *Philosophical Quarterly* 59 (236): 508-518.
- Siegel, S. (2006). "Which properties are represented in perception?" In *Perceptual Experience*, eds. T. Gendler & J. Hawthorne (New York: Oxford University Press), pp. 481-503.
- Siegel, S. (2010). *The Contents of Visual Experience*. Oxford: Oxford University Press.
- Siegel, S. (2017). *The Rationality of Perception*. Oxford: Oxford University Press.

Siegel, S., Beck, O., Chirimuuta, M., Rosenhagen, R., Smithies, D., and Springle, A. (2018). "Discussion of Susanna Siegel's 'Can perceptual experiences be rational?'" *Analytic Philosophy* 59 (1): 175-190.