



# Epistemic Evaluability and Perceptual Farce

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## Rational Evaluability and Perceptual Farce\*

Afterword to *Cognitive Effects on Perception: New Philosophical Perspectives*.

Eds. J. Zeimbekis and A. Raftopoulos.

Susanna Siegel

Several contributors in this volume observe that each part of the notion ‘cognitive penetration of perception’ can be specified in multiple ways.<sup>1</sup> The first parameter concerns the kind of perception at issue: is it early vision, or only those parts of perceptual experience produced by early vision, or all perceptual experience, or perceptual judgment downstream of experience, or any perceptual state or event, or the entire perceptual system? The second parameter concerns what counts as a *cognitive* influence: in addition to belief, suspicions, desires, and fears, do such influencers include affect, imagination, attention, sensory-motor dispositions, any information learned through patterns of exposure, or stored assumptions used in perceptual inference? Is ‘cognitive’ a placeholder for ‘psychological’, or does it mark a distinction in the mind between cognition and perception? The third parameter is the relationship that characterizes the influence: is it merely causal? is it semantically relevant? does it include associations between properties that are represented by the influencer and by the perceptual state?

Taken together, the papers in this volume make the case for a family of phenomena that differ depending on how each of these parameters is fixed. Most contributors focus on whether the architecture of the mind allows influences on perception that are defined by setting the parameters listed above.<sup>2</sup> Many offer arguments with a deflationary flavor: a phenomenon that is only superficially similar to “properly” cognitive penetration has been mistaken for it,<sup>3</sup> or a phenomenon that is superficially similar to properly cognitive penetration doesn’t share the epistemically interesting upshots that properly cognitive penetration is supposed to have.<sup>4</sup> Nearly all of these contributors assume an architecturally significant distinction between perception and cognition, relative to which the influence on the perception that they call attention to do not count as cognitive.

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\* For comments and discussion, thanks to Ned Block, Alex Byrne, Jeremy Dolan, Eric Mandelbaum, Farid Masrour, and especially Zoe Jenkin.

<sup>1</sup> See the contributions by Deroy, Machery, Macpherson, Mole, and Stokes.

<sup>2</sup> See the contributions by Briscoe, Burnston and Cohen, DeRoy, Dokic and Martin, Dretske, Machery, Macpherson, Mole, Wu and Mahon, Raftopoulos, and Pagondiotis, as well as Macpherson (2012).

<sup>3</sup> Deroy, Dokic and Martin, Machery, and Raftopoulos.

<sup>4</sup> See the contributions by Briscoe, Lowe, Pagondiotis, and Zeimbekis. From the opposite end, Mole’s conclusion is inflationary: attention-mediated influences on perception have been excluded from definitions of cognitive penetration, when in fact they should be included. And Lyons argues from a reliabilist perspective that the same negative epistemic upshot can apply to both cognitive penetration and mere influence on judgment.

Given these pluralities, we can see that there is no single phenomenon of cognitive penetration. There is therefore no single version of the existence question: “Is there cognitive penetration?”, or the classification question: “Is *this* experimental result evidence of cognitive penetration?”, or the epistemic question: “Does cognitive penetration have philosophically important epistemic consequences?”.

In response to the plurality of phenomena, it is useful to postpone the existence and classification questions until one or another theoretical purpose for the notion of cognitive penetration has been specified. If the theoretical purpose concerns the architecture of the mind, we can ask: could we learn that the human mind has or lacks architecture X, if we learned that phenomenon Y did or didn’t occur in our minds? This question could guide one in selecting phenomenon Y to use in formulating corresponding existence, classification, and epistemic questions. Stokes advocates this general ‘consequentialist’ approach, with an eye toward singling out a unique phenomenon for us to attach to the label ‘cognitive penetration’.<sup>5</sup> But nothing precludes us from using this approach multiple times, to yield multiple existence, classification, and epistemic questions.

A different response to the plurality starts directly with epistemically significant or epistemically interesting phenomena, and considers which psychological structures would give rise to them, without trying to decide which of those structures, if any, exemplify cognitive penetration. This approach skips the existence, classification, and epistemic questions, and avoids the need to distinguish between perception and cognition. There need not be any notion of cognitive penetration that is defined in such a way that some instances of it would give rise to the epistemic implications of interest.

I’ll apply this second approach to two sets of epistemic phenomena. First, I consider which psychological precursors of perceptual experience impact its power to provide rational support certain other propositions. Many contributors mention a *negative* epistemic upshot that they assume cognitive penetration could generate, and take this negative upshot to be the main thing at stake in whether the architecture of the mind allows it.<sup>6</sup> I make the case that this attitude may tie the

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<sup>5</sup> Stokes, this volume.

<sup>6</sup> Zeimbekis mentions “epistemically pernicious consequences usually expected of cognitive penetration” to which the effects he focuses on are immune. Dockic and Martin likewise focus on “suspect that the epistemological consequences of the cognitive penetrability of feelings would be very different from, and much less disastrous than, the epistemological consequences of the cognitive penetration of perceptual content itself.” Machery writes: “philosophers are largely concerned with the cognitive penetrability hypothesis because it seems to deprive perceptual experience of its distinctive role in the justification of beliefs. But, since it is dubious that degraded and ambiguous perceptual experience has any such role, the influence of beliefs, desires, emotions, etc., on this kind of experience is of little

architectural and the epistemic questions together too tightly, and argue that the negative upshot is only one interesting upshot among many that psychological influences might have on perceptual experience. Second, I identify an even wider family of phenomena that I call “perceptual farce” to help us consider how psychological precursors could impact role of perceptual experience in reflecting and sometimes masking social forces. I discuss each of these epistemic phenomena below.

### **1. The Rational Evaluability of Perceptual Experience**

Suppose you see Jack walking toward you. Seeing his face can give you reason to think that he is angry. What is the role of your visual experience in giving you reason to form this belief about Jack?

Many philosophers hold that your visual experience purports to represent features of Jack and his face, in the sense that your experience would be inaccurate if things in the external world weren't the way your experience presented them as being. In presenting you with Jack and his facial expression, your experience identifies something that might be reasonable for you to believe: for instance, ‘He is angry’. A natural next idea is that under certain conditions, you can have reason from your experience to believe what your experience suggests to you.

In the history of analytic philosophy, both this construal of perceptual experience and its power to give you reason to believe what it suggests are relatively new. Davidson famously held that only a belief can justify another belief. Quine didn't talk about perceptual experience at all in discussing belief formation – only about ‘sensory stimulation’.<sup>7</sup> Classical foundationalists shared Quine's (and perhaps Davidson's) impoverished construal of perceptual experience on which they did not purport to represent conditions in the external world, and took the main challenge for epistemology to be to explain how the transition from introspective beliefs self-ascribing such impoverished ‘sensory inputs’ to beliefs about the external world could be rational.

Despite their differences, both older and newer construals of perceptual experience and its epistemic role agree that experiences (variously called ‘sense-data’, ‘havings of sense-data’, ‘conscious sensory inputs’, ‘percepts’, or ‘perceptual experiences’) are the kinds of states that cannot be *formed* rationally or irrationally, relative to the same epistemic norms that we apply to beliefs when we talk about whether they are epistemically well-formed or epistemically badly-formed.

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philosophical relevance.” Lowe and Pagondiotis focus on putative threats to realism from cognitive penetrability.

<sup>7</sup> Davidson (1986). Quine (1960) also worked with notions of *experience*, *observation*, and *evidence* that were much less impoverished, but never assimilated sensory stimulation to any of these.

Davidson, Quine, and the classical foundationalists would all agree with their contemporary detractors that we can't reason our way to experiences, the way we can reason our way to belief. A fortiori, we can't reason our way *well* to experiences, nor can we reason our way to them epistemically *badly*.

The standard examples of cognitive penetration have been taken to call this assumption into question, even when those examples are fictional. Several contributors discuss the case of Jack and Jill: Jack believes Jill is angry at him, and his belief helps explain why, when he sees Jill, her face looks angry to him. If you saw Jill's face, you'd see her neutral expression for what it is. Jack is having an illusion brought on by his belief. Now consider whether his visual experience of Jill's face as angry provides him with additional rational support for believing that she is angry. Normally, when you look at someone, you can gain evidence from how they look about their mood. If Jack can't do that in this case, due to the influence of his belief on his experience, then it seems that the rational power of his perceptual experience is reduced by one of its causes.

A second fictional example is an oversimplified form of influence on color experience by 'memory color'. A grey banana looks yellow, due to your belief that bananas are yellow.<sup>8</sup> That belief prevents you from seeing the greyness of the banana for what it is, just as Jack's belief prevents him from seeing Jill's neutral expression for what it is. We can then ask whether your yellow-banana experience provides as much rational support as it might otherwise do for believing that

(i) the banana you see is yellow,

or for increasing your confidence in the generalization that

(ii) bananas are yellow.

Here too, many contributors assume that if memory color operated through the influence of a belief that bananas are yellow on color experience, the rational power of color experience would be reduced with respect to one or both of these propositions.

The epistemological assumptions listed so far are directed at the rational power of perceptual experiences to support beliefs that helped produce the experiences. But parallel questions arise for fears and desires. Would Jack's fear that

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<sup>8</sup> The central experimental papers are Hansen (2006), Olkkonen (2008), Witzel (2011). It is in dispute whether the influencing state is a belief, and if so, what its content is ("Bananas are yellow" or "Banana-shaped and textured things are yellow".) The example in the text is fictional because it stipulates both that the influencing state is a belief, and that the subject experiences the banana as yellow, whereas in the real case it is experienced as yellowish (though see Zeimbekis 2013 for an argument that is simply experienced as gray, with no effect on color experience at all. The phenomenon is also discussed by Brogaard and Gatzia (ms) and Macpherson (2012).)

Jill is angry be confirmed by experiencing her as angry, if his fear helped produce her experience? If you hoped that bananas are yellow and this hope generated a yellow experience upon seeing a grey banana, would that influence detract from the experience's rational power to support the belief that the banana is yellow, or that bananas are yellow?

These questions probe whether experiences can lose any of their rational power by virtue of influences from doxastic states, conative states, or fear. If they can, then the perceptual experience is itself rationally evaluable, in the following sense: it depends for its formation on other psychological states, and that dependence impacts its power to provide rational support for believing other propositions. (I return shortly to different ways in which the rational power of experience may be impacted).

None of the contributors contest the substantive epistemological thesis that the experiences in at least some of these scenarios would lose some (or all) of their rational support they could otherwise offer for certain propositions.<sup>9</sup> But many have epistemologically deflationary aims of a different sort. They assume that cognitive penetration has epistemic effects like these, and then they argue that the experimental data most often put forward as examples of cognitive penetrability are at best evidence of "lateral" or "intra-perceptual" effects, effects mediated by attention or affect, or simply effects on perceptual judgment, where this is downstream from perceptual experience.<sup>10</sup> Memory color, multisensory integration,

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<sup>9</sup> The contributors don't contest this, but it is contested by Huemer 2013, Tucker 2014, Fumerton (2013), Pryor 2001, among others, and defended by Jenkin (ms), Lyons (2013), McGrath (2013, 2014), Siegel (2012, 2013a), Teng (ms), and Vance (2013). Even those who deny that cognitive penetration by itself could reduce the epistemic power of experience agree that if the subject learned that her experience had been produced in those ways, she would have a defeater that undercut the experience as a source of rational support. The issue is whether any psychological influences on perception by themselves, absent awareness of them, could have this effect.

<sup>10</sup> See the contributions by Briscoe, Machery, DeRoy, Dokic and Martin, and Zeimbekis, as well as Zeimbekis (2013), Brogaard and Gatzia (ms). Following DeRoy (2011), many of these writers classify the stored generalization in the case of memory color as perceptual on the grounds that the measurable effect is weaker for line drawings and stronger for realistic pictures. A banana will continue to look yellowish even after its hue is adjusted far past grey, but a line drawing of a banana will not be adjusted as far past grey as a realistic picture of a banana. Categorizing the item as a banana thus seems not to determine how strong the effect is, since the perceiver recognizes the item as a banana both times. The difference in strength of effect seems to come from factors that differ between the line drawing and the realistic picture, such as texture and shape information. But which properties a state represents does not settle whether the state itself belongs to perception or to belief (cognition). We know and hence believe that banana-shaped and textured things tend to be yellow, alongside our knowledge that bananas are yellow. (A different and more powerful ground for this classification is the relative strength of the effect with 'daylight'

the Levin-Banaji faces, and various results from 'New New Look' experiments about wishful seeing are re-described by several contributors as falling squarely on the perceptual side of the distinction between perception and cognition. They conclude that the effects could not have any special impact on the rational power of experiences, on the grounds that entirely intra-perceptual processes are a-rational. Even if pre-conscious processing involves unconscious inference, such as Bayesian reasoning, it is at best *as-if* rational or *as-if* irrational, due to the fact that it operates entirely at the level of perception. Such inferences are not subject to the epistemic norms we apply to persons, when we say that the person is rational or irrational, by virtue of their psychological processes being epistemically well-formed and maintained, or epistemically ill-formed and maintained. (For example, a person is irrational to the extent that they hold an epistemically ill-formed belief).<sup>11</sup> According to the deflationary idea that several contributors express, no inferences leading up the putative cases of cognitive penetration they discuss are subject to these epistemic norms, however redolent those inferences may be to ones that are.<sup>12</sup>

When is a route to perceptual experiences rationally evaluable? We are used to asking how reliable or truth-conducive our perceptual experiences may be. *Reliabilists* about epistemic justification take the answer to bear on the rational power of those experiences, whereas non-*Reliabilists* don't.<sup>13</sup> Even fictional cases of cognitive penetration like the two we started with (Jack and Jill, fictionalized memory color) open the possibility that some routes to perceptual experiences might be rationally evaluable. The kind of rational evaluability I introduced earlier is independent of reliabilism. If a route to experience is rationally evaluable, then due

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colors yellow and blue, and relative weakness for red and green. Why the effects are uneven in this way remains to be explained).

<sup>11</sup> Note that it would not be a foregone conclusion from the fact that a *process* is person-level (a process the person undergoes, as opposed to part of the person) that it is rationally evaluable. If I blink my eyelids rapidly, knowing that the blinking will make me dizzy, this route to my dizziness is not thereby subject to person-level epistemic norms. For more on the distinction between personal and sub-personal processes and explanations, see Drayson (2012).

<sup>12</sup> DeRoy may have this idea in mind when she describes perceptual representations as 'non-rational':

"Although it remains to be shown what kind of non-conceptual correspondence could explain the privileged integration between congruent kettles and whistles, it is possible that the effect on multisensory integration is ... coming from ... non-conceptual, opaque and non-rational representations of congruence, rather than from our beliefs or knowledge about objects."

Similar ideas are expressed by Brogaard and Gatzia (ms).

<sup>13</sup> On reliabilism, see Goldman and McGrath (forthcoming), *Epistemology: A Contemporary Introduction*. Oxford University Press, and Goldman, Alvin, "Reliabilism", *The Stanford Encyclopedia of Philosophy* (Spring 2011 Edition), Edward N. Zalta (ed.), URL = <<http://plato.stanford.edu/archives/spr2011/entries/reliabilism/>>.

to the relationship between the experience and psychological states that help generate it, its rational power is impacted. How could it be impacted? (Here I pick up the question left behind earlier). In three ways: it either has *less* power to support certain beliefs than they would absent those precursors;<sup>14</sup> or it has *more* power to do so; or it has the usual amount, but has it in part by virtue of its relationship with those psychological precursors.

Most discussions of putative cases of cognitive penetration focus on the *reduction* of epistemic power. The fact (if it is a fact) that there could in principle be any impact on the rational powers of experience due to influences by what you believe, suspect, want, know, or fear suggests that there is such a thing as a rationally evaluable route to perceptual experience. The philosophical problem is then to identify which routes these are. If Jack's beliefs or fears could influence his anger-experience of Jill in a way that reduces its rational power, why couldn't his stored representations that bananas are yellow reduce the rational power of the yellow-banana experience?<sup>15</sup> Which features of a route to experience make it rationally evaluable?

Some contributors rely on a distinction between perception and cognition to draw the line dividing the rationally evaluable routes to experience from the a-rational ones. But many distinctions do business under the label 'perception versus cognition'. These include: the distinction between iconic and propositional format; early vision versus visual cognition; conceptual versus non-conceptual content; representations that depend on current stimuli versus those that don't; representations internal to sensory modalities versus those external to them.<sup>16</sup> The elements of all these distinctions are themselves underspecified. Even if we could regiment the distinction perception and cognition by sharpening and selecting one of the many distinctions that go under that label, further principles would still be needed to explain why the processes that are purely perceptual in the selected sense fall outside the domain of the epistemic norms. A more direct approach would probe directly which routes to perceptual experience are rationally evaluable.

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<sup>14</sup> We can think of reduction as reduction below a baseline, relative to which we normally have pretty good reason to believe our eyes.

<sup>15</sup> I thank Zoe Jenkin for pressing this question, and for many illuminating discussions about how to answer it. She addresses the question in her paper "Perceptual Expectation and Epistemic Downgrade".

<sup>16</sup> See Fodor (1983) and Carey (2010) on iconic vs propositional format; Evans (1982) on conceptual versus non-conceptual content; Pylyshyn (1999), Raftopoulos (2009), Brogaard and Gatzia on early vision; Beck (ms) on stimulus-dependent versus stimulus independent representations.



How can we probe this question? Below I outline three approaches. I illustrate each one using the case of memory color, and discuss whether the effect on color experience from memory color would be rationally evaluable, even if it results from processes that many contributors classify as perceptual rather than cognitive. My discussion is not meant to establish that influences by memory color on color experience are rationally evaluable.<sup>17</sup> But it highlights the kinds of considerations that help answer the larger question of which routes to perceptual experience are rationally evaluable, without relying on an independent classification of an influencing state as either cognitive or perceptual.

### **Approach 1: Find the limits from below**

Let us take it as a fixed point that there *limits from below* on which routes to perceptual experience are rationally evaluable: not every route to perceptual experience is rationally evaluable. When a route to perceptual experience is not rationally evaluable, we can say that it is a-rational.<sup>18</sup> To find the limits from below on which routes to experience are rationally evaluable would be to identify in general terms the a-rational routes to experience. Routes to experience that fall outside those limits would then be decent candidates for being rationally evaluable. To execute this approach, one can consider examples of a-rational psychological processes in which psychological states influence perceptual experience, focus on representations involved in those routes to experience, and try to identify which features of those representations, or of the process linking them to experience, makes that route to experience a-rational.<sup>19</sup>

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<sup>17</sup> If memory color had rationally evaluable effects on color experience, there are multiple effects these could be. The option most often discussed is *reduction* rational power of experience, relative either to the content of the color experience ('x is yellow') or the content of influencing state ('banana-shaped and textured things are yellow'). Other options echo the ones listed earlier: *increase* the power of experience to rationally support its contents or other propositions, relative to a baseline; or it simply change the factors by virtue of which the experience provides baseline amount of justification.

<sup>18</sup> What is it for a state S or process P to be a-rational? At a minimum, there is no respect in which her being in S or undergoing P constitutes her being rational, and no respect in which it constitutes her being irrational.

<sup>19</sup> A different approach would aim to identify in general terms what can make a *state* a-rational, and then see if those general terms would count any representations involved in memory color as a-rational. For instance, a potentially sufficient condition for being an a-rational representational state is that its formation is not due to any of the properties it represents, and it cannot develop or be adjusted in any way that would make it sensitive to those properties. This proposal would not count any memory color representations as a-rational, on the assumption that those representations are *learned* from patterns of exposure to the properties they represent. Thanks to Eric Mandelbaum for discussion.

Some contributors suggest that if putative cases of cognitive penetration are due chiefly to the influence of a representation that is “implicit”<sup>20</sup>, then it has no epistemically significant effects on perceptual experience.<sup>21</sup> To make contact with this suggestion, we can start with some examples of uncontroversially a-rational processes containing uncontroversially implicit representations that encode transitions from one representation to another. So let us take it as another fixed point that a-rational processes include: the inference from contrasts to edges, the inference from certain edges to depth representations, and the inference from certain spatio-temporal cues to representations of causation.<sup>22</sup>

How can we generalize beyond these examples to assess whether other representations are rationally evaluable, such as the ones involved in memory color that may go on to influence perceptual experiences? I’ll consider several features of them and argue that either they don’t apply to memory color representations, or they are poor candidates for illuminating what makes a process a-rational, or both.

A first suggestion that the paradigmatically a-rational inferences encode information in a different *format* than the belief that bananas are yellow. This feature is a poor candidate for making a process a-rational. If perceptual experiences or imaginative states as of yellow oblong shapes had an iconic format, then this format would presumably not preclude the experience from providing reason to believe that something yellow and oblong was nearby, or the imagination from providing reason to believe that yellow things can be oblong.

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<sup>20</sup> The term “implicit representation” can be confusing if one thinks of implicit states as rules or transitions from one representation to another, such as the modus ponens inference rule, or the rule for computing edges from contrasts. For purposes of discussion, we can think of these states as implicitly representing modus ponens, or the conditional that if there are contrasts meeting certain specifications, then there are edges that meet certain other specifications. To say that they are implicit marks their functional difference from the representations that they relate. Shea (2014) offers a useful discussion of implicit representation.

<sup>21</sup> In their contribution, Dokic and Marin write about memory color: “We expect from a case of cognitive penetration that it reflects the influence of high-level conscious (at least, accessible) cognitive states upon perceptual contents – for instance, an influence from background knowledge. However, Bayesian priors are not part of such high-level cognitive accessible contents, but amount to a kind of *implicit knowledge* the brain uses to operate statistical inferences in presence of uncertainties (they constitute a “theory that is inherent in the system”, Raftopoulos, 2009, p. 270)” --Note that the fact that an information process conforms to Bayes’ Theorem does not establish its status as cognitive or perceptual, or what whether it has any features that might bear on whether they are rationally evaluable. Presumably some processes that conform to Bayes’ Theorem are rationally evaluable.

<sup>22</sup> Another example of an implicit representation: the syntactic rules that allow us to discern whether a string of words is an English sentence.

A second suggestion is that the implicit representations cannot be formulated by the subject at all, or else cannot be formulated without significant investigation. This feature applies as well to the heuristics uncovered by Tversky and Kahneman, and to implicit assumptions that guide our reasoning but that take a lot of reflection or experimental investigation to unearth, such as the kinds we often say were “not on the radar” in studying scientific theories from the past.<sup>23</sup> Since both implicit assumptions and formation of beliefs using heuristics are rationally evaluable, it is not in general true that an inability to formulate the content of an implicit representation (or unawareness that one has a representation) make the reliance on an implicit representation a-rational.

A third suggestion is that implicit representations that encode transitions from contrasts to edges are representations we can have without having any concepts of the properties *contrast* or *edge*. (A parallel observation holds for the other examples of implicit representations we started with). If lacking such concepts made this process a-rational, then some other explanation would be needed of why they remain a-rational once we gain concepts of those properties. And in the case of memory color, most of us have concepts of the color yellow, and of the shapes and textures characteristic of bananas (smooth in parts, stubby at the stem, etc).

A fourth suggestion is that the transitions in our paradigms of a-rational processes are immalleable by any other psychological process. Such immalleability arguably could help make a psychological state a-rational. This strategy may be promising way to find the limit from below, but it does not apply to memory color, so long as the links between shapes, textures and colors could change by some of the same processes that established them in the first place, such as patterns of exposure.

A last suggestion is that the implicit representations have no function in the mind other than to execute the transitions that they encode. A consequence of this limited functional role is that the implicitly represented information is unavailable for use in a wide range of inferences.

If its limited inferential availability is part of what makes reliance on implicit representations a-rational, then our question should be: how much inferential availability, and what kind, would the key influencing state need to have, for its role in producing perceptual experience to be rationally evaluable? It is implausible to require global inferential availability in order for it to be an ingredient in a

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<sup>23</sup> Consider medieval alchemists concept of weight, which would allow a few pounds of lead to be turned into hundreds of pounds of gold. Presumably they could not easily formulate the assumption that weight was not an extensive magnitude. For discussion of contrasting conceptual schemes related to weight, see Carey (2010) chapter 10.

rationally evaluable process. Think of compartmentalized beliefs, which are not available for full range of processing. Suppose you forget that you have an appointment with X at noon when you make an appointment with Y at noon. The partial inaccessibility of your belief that you will meet X at noon does not stop it from participating in rationally evaluable inferences. For instance, upon finding X's umbrella you might plan on giving it back to her when you see her at noon, without yet noticing your conflicting appointments. The rational status of the resulting belief that X will get her umbrella back seems influenced by its reliance on the belief that you are meeting X at noon.<sup>24</sup> Partial inaccessibility is no bar to participating in rationally evaluable routes to belief. So it is not true in general that inaccessibility of a psychological state prevents it from impacting the rational status of other states that depend on it.

If limited inferential availability makes reliance on implicit representation a-rational, then in probing whether any effect of memory color on experience is rationally evaluable, we should consider how wide the range of circumstances is in which the generalization about color is activated. Call shapes and texture characteristic of bananas 'B-shapes' for short, and suppose that memory color effects comes from intra-perceptual generalization that B-shapes tend to be yellow. What activates this generalization? Can it be activated by an imagination or hallucination of B-shapes, as well as by perception of them? As the range widens, it looks more like a case of compartmentalized belief than the highly circumscribed syntactic information, or a mere transitions from one state to another.

These suggestions do not yet illuminate why there are limits from below on the rational evaluability of perceptual experience. But they put pressure on excluding the influence of memory color representations on perceptual experience from the domain of epistemic norms.

### **Approach 2: The Explanatory Approach**

How else might we probe which routes to perceptual experience are rationally evaluable? A second approach starts by asking whether there is anything that the hypothesis that some routes to perceptual experience are rationally evaluable could explain. An explanatory role for this hypothesis would give us some

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<sup>24</sup> What is the rational status of your belief that X will get her umbrella back (the 'umbrella-belief')? Its rational status seems obviously influenced by your belief that you'll meet X at noon (the 'meeting-X belief'). On one view, the umbrella-belief is well-founded by the meeting-X belief, together with your belief that you'll return X's umbrella then. A different option is that the umbrella-belief is ill-founded, because your belief that you'll meet X is noon is made irrational by your belief that you'll meet Y at noon, and that you can't meet them both at once. On either option, a belief with limited accessibility (the meeting-X-belief) influences the rational status of another belief. The options differ with respect to whether a prohibition against inconsistency governs relationships between beliefs in different compartments.

reason to believe it. Any cases in which the hypothesis plays an explanatory role will contain factors that make the route to experience rationally evaluable. We can then try to figure out which factors these are, drawing on the specific character of the case.

A straightforward application is the case of Jack and Jill from the start. The main ingredients of the argument are these:

**Bootstrapping intuition:** Jack's experience that Jill is angry does not give him additional rational support for believing that Jill is angry.

**The Inferential Hypothesis:** The Bootstrapping intuition is best explained by the inference-like relation of rational dependence that the experience stands in to the antecedent beliefs.

The inferential hypothesis entails the Rational Evaluability hypothesis:

**Rational evaluability hypothesis:** Some routes to perceptual experience are rationally evaluable.

An Explanatory approach makes the case that the Bootstrapping intuition is best explained by the Inferential hypothesis. How could the Rational Evaluability hypothesis explain the bootstrapping intuition? A natural idea is that the intuition is explained by illicitly circular structure that would emerge if Jack strengthened his belief in response to his experience. More argument is needed to show that this is the best explanation. But it is a natural candidate. If it is a strong candidate, then we have identified a structural relationship between experience and its psychological precursors that makes the experience rationally evaluable. We can then ask in what other domains the same structure might be found. In particular, we can ask what it would take for such a structure to be found in the case of memory color. Could there be analogs in that case of the Bootstrapping intuition? More generally, is there anything for the Rational Evaluability hypothesis to explain about memory color?

To address these questions, let us examine more closely the putative illicitly circular structure that many find in the Jack and Jill case.

When one and the same state both generates an experience and is psychologically strengthened by it, this structure is a good candidate for being irrational. In the case of Jack and Jill, Jack's belief that Jill is angry plays two roles: it helps generate an experience in which Jill looks angry to Jack, and it is strengthened by that very experience. It is strengthened in the sense that Jack increases his confidence that Jill is angry on the basis of the experience.

What about memory color? First, suppose that one strengthens one's confidence (a form of belief) that B-shaped things tend to be yellow, on the basis of an experience that d is B-shaped and yellow, and suppose that a generalization that B-shapes are yellow helped generate that very experience. Finally, suppose that the

generalization takes the form of something other than a belief. If the state that causes the experience is not the state that is strengthened by it, then the strengthening is a poor candidate for irrational circularity.<sup>25</sup>

This situation is the one many contributors think we are in. According to them, we have “merely perceptual” representation that B-shapes are yellow (or a “merely perceptual” association between B-shapes and yellow), that representation helps produce yellowish experiences, and those yellowish experiences are perfectly poised to rationally strengthen beliefs about the color of the banana.

By contrast, in the Jack and Jill case, the threat of illicit circularity arises, in part because one and the same state generates the experience and is strengthened by it, if Jack strengthens his belief on the basis of his experience. For there to be forms of illicit intra-perceptual circularity in which the generalization helps produce the experience, there would have to be an analogous two-part structure.

First, there would have to be a way for the experience to psychologically strengthen the generalization, consistent with its belonging to a perceptual system. The strengthening might consist in a stronger “yellowification” signal in response to B-shapes, or a wider range of circumstances in which B-shapes produce yellowification signal, or a wider range of circumstances in which both B-shapes and yellow signals are sent.<sup>26</sup>

Second, the strengthening by experience would have to be rationally evaluable. Here we are asking whether an intra-perceptual generalization can be rationally strengthened *by* experience, as a way to assess whether a route *to* experience from the generalization is rationally evaluable. Supposing that the generalization in memory color is intra-perceptual, can it be either rationally or irrationally strengthened by experience?

Here there is a major disanalogy with the case of Jack and Jill, where the circular structure includes Jack’s belief. Jack’s belief is the kind of state that can be strengthened rationally or irrationally by experience. In contrast, whether

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<sup>25</sup> Why is it a poor candidate for irrational circularity, if the state that generates the experience and the state it strengthens have overlapping accuracy conditions (e.g., both have accuracy condition ‘B-shapes are yellow’)? It is a poor candidate because sharing accuracy conditions is not enough to make a transition irrational. For example, when one endorses one’s perceptual experience, one forms a belief with a content that is also a content of one’s experience, but endorsement is not thereby irrational.

<sup>26</sup> If in addition there was an unconscious representation of a grey banana, it might weaken the association, in a way worked against the strengthening by the yellowish experience. If the unconscious perception is a distribution of probabilities over colors, then the increment of strengthening might depend on the relative strength of the ‘yellow’ possibilities.

generalizations that aren't beliefs can be strengthened rationally by experience is up for grabs. So long as this is up for grabs, we don't have an analogy to the Bootstrapping intuition about Jack's belief. Since the Bootstrapping intuition was the thing to be explained in the explanatory strategy outlined earlier, that strategy has no straightforward extension to intra-perceptual cases. The explanatory approach could be extended in this way, only if there were grounds for thinking that the generalization can be strengthened rationally or irrationally by experience. Perhaps such grounds could be leveraged into an argument for the potential rational evaluability of circular intra-perceptual structures.<sup>27</sup>

### **Approach 3: The Defeat Model**

The circular structure invoked by the Explanatory approach is not the only structure that is a candidate for a rationally evaluable intra-perceptual process. A different structure involves overriding unconscious perceptions that offer rational support for believing their contents.

To fix ideas, consider a structurally analogous route to belief. You know that X is behind a curtain and you can't see X, but you know that X is B-shaped. You've got some reason to think X is yellow, but it doesn't come from perceiving X – it comes from your knowledge that B-shaped things tend to be yellow. Then the curtain is lifted and you see X. X is grey, and X looks grey. You've got no reason to believe anything is abnormal, and your experience is caused primarily by X in the usual manner.

There will be some cases with this structure in which it will be rational for you to update your antecedent belief and form the belief that X is grey. Normally, when it is rational to update one's belief in this way, the information provided by one's perception of X outweighs the information one has by virtue of one's relationship to the premises of the inference. And normally, in this situation it is irrational to be guided by the premises of the inference instead of by the perception.

Could any memory color effect on perceptual experience fit this model? An analogous route to experience might take a form illustrated by this dialogue between the visual system and a banana.

VS: What color are you?

X: I'm grey.

VS: But you're B-shaped. You must be yellow.

Here, the stored information linking B-shaped things to yellow intervenes before the experience, but after the representation of grey that is triggered by the grey banana.

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<sup>27</sup> In "Perceptual Expectations and Epistemic Downgrade", Jenkin develops in detail the idea that there can be epistemically illicit intra-perceptual circularity.

An inference from the generalization generates an experience overriding an unconscious perception that x is grey.

Fig. 1: Inference overrides unconscious perception.

	<b>Inference</b>	<b>Unconscious Perception</b>
<b>Stored representation:</b>	B-shapes tend to be yellow	
<b>Current representation:</b>	<u>X is a B-shape</u>	
		X is grey
<b>Experience:</b>	X is yellow.	

Continuing the analogy with the curtain case, psychologically, the intra-perceptual generalization that B-shaped things tend to be yellow would take the place of knowledge of that generalization, and unconscious perceptions that X is B-shaped and that X is grey would take the place of knowing that X is B-shaped and seeing X once the curtain is lifted. Could this process be rationally evaluable? Here is an argument that it could.

#### **Argument from defeat of unconscious perception**

P1. An unconscious perception that represents that x is F can have rational power to support believing that x is F.

P2. If an unconscious perception that represents that x is F can have rational power to support believing that x is F, then it can be irrational for it to be overridden in a route to a perceptual experience with the content: x is F.

P3. If a process irrationally overrides an unconscious perception, then the process is rationally evaluable.

Conclusion: Some routes to perceptual experience are rationally evaluable.

Premise 3 is a natural elaboration of the idea of a rationally evaluable process. The key premises are P1 and P2. Defenses of them might start from the following considerations.

On premise P1: The case of conflicting appointments discussed earlier illustrates a kind of state that is not entirely accessible to subsequent reasoning and processing, but that has rational power to support subsequent beliefs all the same. We can distinguish a psychological aspect of these beliefs from an epistemic aspect. Psychologically, their availability for inference is limited. Epistemically, they are can be epistemic resources that subject fails to make full use of. Even when they aren't accessed for inference (as they would be if you realized that you had conflicting



appointments), they retain the features that ground their epistemic force once they are accessed.

Are compartmentalized beliefs the only states with this pair of related psychological and epistemic features? Arguably, they belong to a wider category that includes perceptual experiences with a low degree of attentiveness. Just as each compartmentalized belief about your appointment can be made available for reasoning through recall, so too inattentive experiences can be made available through shifts of attention. Just as the compartmentalized belief retains its epistemic force when unaccessed, arguably the inattentive experiences do too.<sup>28</sup>

Unconscious perceptions seem to fit the same pattern, when the transition to phenomenal consciousness leaves all their other features intact. Once it is phenomenally conscious, it will belong to the subject's epistemic resources (assuming it is not defeated or otherwise downgraded with respect to its rational power). Just as the inattentive experience could easily become attentive, so too the unconscious perception could easily become phenomenally conscious. In both cases, the result of the transition clearly belongs to the subject's epistemic resources. Given that only a minimal transition is needed to cross the threshold into the realm of epistemic resources, such states may be epistemic resources all along, and compartmentalization, inattentiveness, or unconsciousness are merely ways of limiting our access to them. In the face of these similarities, principled grounds are needed for excluding unconscious perceptions from the domain of un-used epistemic resources. These considerations are far from decisive, but they suggest a case that might be made for P1.

Premise P2 purports to take us from the rational power of certain unconscious perceptions to the rational evaluability of processes that override them. Suppose it is granted that an unconscious perception can provide rational support for believing its contents. Then consider a process that could take account of that support, but doesn't. Such a process seems analogous to a process that ignores evidence that one has. If ignoring evidence is irrational, then the process that leads to this result is irrationally outweighing the evidence, and hence must be the kind of process that is rationally evaluable.

To sum up, I've considered three approaches to discovering what belongs in the domain of epistemic norms. Each approach suggests that some routes to perceptual experience are rationally evaluable, in the sense discussed earlier: the perceptual depends for its formation on other psychological states, and that dependence impacts its power to provide rational support for believing other propositions. One might try to develop any of the approaches to argue that the rational evaluability of perceptual experience extends beyond canonical cases of

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<sup>28</sup> For discussion of inattentive experiences and their epistemic status, see Silins and Siegel (2014). I think Nico Silins for many discussions of un-used epistemic resources.

cognitive penetration. All three approaches give us tools to analyze how far into the mind epistemic norms extend.

I've argued so far that the epistemic significance of psychological influences on perception is not necessarily limited to canonical cases of cognitive penetration. Next I turn to the epistemological significance of an even broader family of effects to which canonical cases of cognitive penetration belong.

## 2. Varieties of top-down effects on perception

The family of phenomena falling under the general rubric of cognitive penetration belongs to an even wider class of potential influences on perceptual experience and judgment. We can distinguish myriad ways in which both perceptual experience and perceptual judgment could be influenced by other psychological states we are in. Studying the broader family of effects may give us tools to analyze how social forces may operate through perception.

To see how the broader family of effects applies to understanding of social phenomena, consider Keith Payne's disturbing experiment in which participants more often misclassify a tool (pliers, wrench, or a drill) as a gun when primed with pictures of Black men, compared with subjects who have been primed with pictures of White men.<sup>29</sup> From this result, we know that whatever psychological state the prime puts the subjects in, it influences their answers on the classification task.

How is the visual experience of subjects in Payne's experiment affected? How do the pliers look to the subjects, when they see them? The experiment does not speak to this question, and the results could be explained in a range of ways:

- **Disbelief:** The pliers look to the subject exactly like pliers. Classification errors are driven by something that makes the subjects disbelieve their perceptual experience.
- **Bypass:** The pliers look to the subject exactly like pliers. Classification errors do not result from responses of any kind of the experience – not even disbelief.
- **Haste:** The pliers do not look like pliers or like a gun, but subjects jump to the conclusion that it's a gun, before perceiving enough detail to decide the matter on the basis of what they see.
- **Introspective error:** The pliers look to the subject exactly like pliers. But they make an introspective error in which they take themselves to experience a gun.
- **Automatic, disowned behavior:** The pliers looked to the subject exactly like pliers, but the state guides behavior that subjects immediately afterward will on reflection regard as mistaken.

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<sup>29</sup> Payne 2001. The subjects are non-Black American college students, though similar effects are found for Black American college students.

- **Cognitive penetration:** The pliers look to the subject like a gun, due to the state activated by the Black prime (where by stipulation the state is activated by the Black prime counts as cognitive).

The first three options (Disbelief, Bypass, Haste) are effects on perceptual judgment. The second two (Disbelief, Bypass) along with Introspective Error impact the *role* of experience in forming judgment, rather than the contents of experience. The third (Haste) leaves open whether the prime impacts the extent of perceptual processing as well as the response to it in judgment. There could be hasty judgment, hasty perceptual experience, or both. The last option (cognitive penetration) relies on a distinction between extra-perceptual or intra-perceptual influencers, which we saw earlier remains fluid absent further regimentation. The rest of the options are insensitive to how the influencing state stands relative to the domain of perception.<sup>30</sup>

Most discussion of epistemological impact of psychological influences on perception has focused on canonical (even if fictional) cases of cognitive penetration. But if we start from the assumption that social forces influence perception without our awareness, and our question is how they do so, drawing these distinctions gives us a place to start. In all of these cases, a perceiver ends up either perceptually experiencing what she already suspects or fears to be the case, or forming beliefs on the basis of perception that confirm her suspicions or fear. We might say that they are all cases of *perceptual farce*. The farce is that perception seems to open our minds to the things around us, but doesn't. It purports to tell us what the world is like, so that if need be, we can check our beliefs, fears, and suspicions against reality and can use it to guide our actions - but it doesn't.<sup>31</sup> As the distinctions drawn above show, perceptual farce is not specific to even the most canonical cases of cognitive penetrability. It can operate through influences by one's own outlook on perceptual judgment, or by neutralizing the role of experience in guiding those judgments, or by selecting which stimuli will be experienced in the first place - leaving perceptual experience itself perfectly faithful to the external things that it helps us perceive.

Perceptual farce also encompasses systematic effects on attention. Any pattern of attention will include some stimuli and exclude others. Not all such

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<sup>30</sup> For discussion of the cognitive underpinnings of implicit bias, and of the type of state that the Black prime puts participants in, see Levy (forthcoming) who argues that it isn't a belief, Mandelbaum (ms) who argues that it is a belief, and Brownstein (ms) who will review a wide range of options.

<sup>31</sup> By this characterization of perceptual farce, any case of illusion, no matter how it was generated, would be a case of perceptual farce. So some cases of it will be more interesting than others from the point of view analyzing the impact of social configurations on perception.

patterns will give a misleading impression of openness to the world. But some seem to do so clearly.

Consider outgroup hiring. Here is a domain in which the main task of inquiry is to respond to new information one gets from the applicant dossiers. Information in the dossier, we can suppose, comes with a level of detail that provides the kind of evidence that can outweigh antecedent generalizations. By comparison, you might have excellent evidence that on the whole, 16-year olds are poor drivers. Upon getting to know a specific 16-year old, you will be better placed to assess whether this generalization is true of her. Similarly, in the case of outgroup hiring, readers bring to the process their generalizations about outgroup applications, poised to use them as they would use any background information in assessing new information. Just as you might come across a 16-year old who is a good driver, contrary to your antecedent assumption about 16-year olds, so too you might come across an outgroup applicant who is stronger than antecedent assumptions would predict. If social forces, or the affective profile that goes with them, influenced the process of information uptake by putting a halt to processing of information that is at odds with the generalizations, then specific information that should modulate generalizations in the face of new information would not get a chance to play that role. When the generalizations (unlike the one about young drivers) are unjustified, as it is in the many real-world cases of bias in outgroup hiring, a poor epistemic situation will be perpetuated.

This scenario gives us a model for formulating hypotheses about perception of other people. In the domain of social perception, we can ask whether features that are congruent with antecedent social assumptions or with relative social positions are systematically selected for experience, whether incongruent features are systematically anti-selected, or whether patterns of attention are entirely independent of relative social positions of the perceivers. If we suspect that social positions may be reflected in perceptual situations, this is a useful hypothesis to try and test.

An application of these ideas may be found in the domain of gaze-following. Ingroup participants follow gaze more readily of ingroup members than outgroup members, whereas outgroup participants follow gaze of both ingroup and outgroup members.<sup>32</sup> To the extent that gaze-following indicates confidence that the followed-person's object of attention or experience of it is epistemically valuable, it is reasonable to hypothesize that this result reflects an underlying pattern of social valuation. This kind of selection effect shapes our epistemic situation. In general, selection effects that embody confirmation bias at the level of perception will be cases of perceptual farce.<sup>33</sup>

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<sup>32</sup> Adams and Kveraga (forthcoming).

<sup>33</sup> I discuss this kind of confirmation bias and the rational role of selection effects in Siegel (2013b).

The many modes of perceptual farce are useful for analyzing any domain that is ridden with resistance to taking in evidence that is available from perception. Payne's experiment and others like it show that contemporary forms of racism are fueled by this kind of resistance.<sup>34</sup> And in philosophy, Iris Murdoch develops a systematic account of blindness to perceptually available facts.<sup>35</sup> Why, if people are presented with such specific information, does it not influence their decisions and their behavior? What role is the information playing, if it isn't guiding belief and behavior? It is no surprise that people sometimes respond poorly to evidence when they deliberate. But when the new specific information comes from perception, some explanation is needed of why the information in these situations has so little impact on what subjects go on to believe or do, when in other cases it has so much impact.

The distinction between cognitive penetration and other forms of perceptual farce is important for the psychology of perception, and for understanding the architecture of the mind. But whether cognitive penetrability occurs or not is less important for understanding the role of perceptual experience in shaping and sustaining our outlook on the world, especially in the domain of social perception. Perceptual farce in the form of standard visual illusions has long fueled discussions in perceptual epistemology. When perceptual farce reflects social forces that would be better eradicated, or when it reflects moral limitations in other ways, it poses a host of normative questions about the rational role of judgments and perceptual behavior that they belong to. The epistemic questions surrounding putative cases of cognitive penetrability are just the tip of the iceberg.

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<sup>34</sup> See Dovidio (2000), Correll (2007), also Goldin (1997)

<sup>35</sup> For discussion, see Katsafanas (ms) and Manne (ms).

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