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Perception's objects, border, and epistemic role: Comments on Christopher Hill's *Perceptual experience*

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Christopher Hill's book *Perceptual experience* argues for a representational theory of mind that is grounded in empirical psychology. I focus here on three aspects of Hill's picture: The objects of visual awareness, the perception/cognition border, and the epistemic role of perceptual experience. I introduce challenges to Hill's account and consider ways these challenges may be overcome.

KEYWORDS
cognition, epistemology, perception, reasoning

1 | INTRODUCTION

Perceptual experience strikes an elegant balance between offering a comprehensive theory of the mind and offering detailed solutions to puzzles that have vexed philosophy of mind for decades or centuries. At the center of this deep and impressive work is *representationalism*, the view that all mental states constitutively involve representations. Hill defends representationalism by providing thoroughly developed representationalist accounts of various types of mental states, including tough cases such as our awareness of phenomenal properties. A second central contribution of *Perceptual experience* is its empirically informed methodology. Hill draws on a large body of psychology and neuroscience to shed light on philosophical questions.

My comments take these two central contributions of *Perceptual experience* as starting points. There are many directions in which one might travel from these starting points. Here, I focus on three: the objects of visual awareness, the border between perception and cognition, and the epistemic role of perception. In Section 2, I argue, contra Hill, that evolutionary considerations

support the view that the objects of visual awareness include not only kind objects but also Spelke objects. In Section 3, I raise a challenge for Hill's view that reasoning delineates the border between perception and cognition: What is the definition of reasoning such that it includes all of cognition but none of perception? In Section 4, I argue that epistemic externalism does not have as strong an advantage over epistemic internalism as Hill argues it does.

2 | OBJECT PERCEPTION

Chapter 4 of *Perceptual experience* poses the question, "What are the fundamental objects of visual awareness?" (Hill, 2022, p. 106). A first option is that they are kind objects, meaning members of natural and artificial kinds, such as birds, backpacks, and windows. A second option is that they are Spelke objects, meaning the cohesive, bounded, and spatio-temporally contiguous entities that are studied by vision science and developmental psychology. A third option is that they include both kind objects and Spelke objects. Carey and Xu (2001) influentially argue for a version of this third option that posits two separate systems: one perceptual system whose objects of awareness are Spelke objects and one conceptual system whose objects of awareness are kind objects. While this second system is conceptual, it is grounded in perception and so involves at least a derivative kind of visual awareness.

Contra the two-systems view, Hill argues that the objects of visual awareness are only kind objects (Hill, 2022, p. 110). His main reason is that kind objects are relevant to our biological needs, unlike Spelke objects. Kind objects determine where we should navigate (e.g., toward that tree, over that rock), what we should consume (e.g., strawberries but not pencils), and what to avoid (e.g., bears, lions, lightening). In contrast, Hill argues, Spelke objects are not relevant to these biological purposes. Spelke objects are individuated by their cohesiveness, boundedness, and spatiotemporal contiguity, not by their color, shape, or function, and so they are irrelevant to decisions like whether a berry is ripe enough to eat. Hill concludes that the view that kind objects are the sole objects of our visual awareness fits best with an ecological conception of the environment and our place in it.

However, Spelke objects also serve an important, but different, biological purpose. The Spelke object system functions like a physics engine. It not only allows us to individuate objects based on their spatiotemporal cues, but also allows us to predict where they will be in the near future. This is because the Spelke object system attributes boundedness, cohesion, solidity, movement along continuous trajectories to objects, and adherence to the laws of contact causality. This kind of prediction is biologically essential. If a rock is hurtling toward your face, you need to predict where it will be so that you can dodge out of the way. If you are picking berries, you need to predict how they will move when you tilt your basket up or down. If you put a glass on a table, you need to know it will not fall through the table because both objects are solid. The Spelke object system also allows us to track objects behind occlusion. If you put two apples in a bucket and remove one apple, you need to know that there is one apple left—otherwise you will waste energy finding a new apple.

Spelke objects do not help meet these biological needs by mere coincidence. We need to track objects with Spelke object-type properties (cohesion, boundedness, continuity, solidity) to successfully navigate our physical environments. While kind objects could in principle be tracked in a similar way, the sort of information used to individuate kind objects such as shape, color, texture, size, and so forth, does not in fact inform our object tracking and individuation (Carey, 2009; Spelke, 2022). It is Spelke objects that do the job.

So, it seems that representations of Spelke objects serve a separate, but equally important, biological need from kind objects. If, as Hill argues, serving biological needs is a major factor in determining the objects of visual awareness, there is good reason to admit Spelke objects as among the objects of visual awareness. The two-systems picture is on good ecological footing.

3 | THE PERCEPTION/COGNITION BORDER

Chapter 8 of *Perceptual experience* concerns the border between perception and cognition. Hill approaches this topic by considering what features unify perception and cognition respectively. Hill argues that perception is unified by a distinct kind of format. The perceptual system is analog and the perceptual states it produces are iconic. This means roughly that perceptual states are isomorphic to the domain that is perceived. While on some views, iconicity marks the perception/cognition border (e.g., Block, 2023; cf., Quilty-Dunn, 2020), Hill argues that this cannot be the case because iconic representations are used in cognition, for example, in mental imagery.

So, what then marks the perception/cognition border? Hill argues that it is the ability to participate in reasoning. The cognitive domains are all and only those domains that can participate in some form of reasoning, while the perceptual domains are all and only those domains that cannot (Hill, 2022, p. 190). Reasoning comes in diverse forms, ranging from deductive inference to manipulation of mental imagery. This means that the unification of cognition by reasoning is a relatively weak kind of unification, but it is unification nonetheless.

Hill's account of the perception/cognition border requires an account of reasoning such that *all* domains of cognition, including mental imagery, can participate in reasoning but perception cannot. Yet such an account of reasoning is hard to come by. For example, if reasoning is defined as requiring propositional attitudes, manipulation of mental imagery will be excluded. If reasoning is defined as necessarily conscious or deliberate, many forms of unconscious and automatic cognition will be excluded. If reasoning is defined as any process that relies on stored information, a wide range of perceptual processes will be included. If reasoning is defined as a response to rational support, perceptual processes that involve cognitive penetration, perceptual learning, or crossmodal interaction will be included, at least according to recent arguments in epistemology (e.g., Jenkin, 2022, 2023; Siegel, 2017).

Hill's account of the perception/cognition border relies on an account of reasoning that unifies cognition without sweeping up at least some of perception in its wake. The above challenges suggest that such an account is elusive and, without it, Hill's account of the perception/cognition border is in jeopardy.

4 | THE EPISTEMIC ROLE OF PERCEPTION

Chapter 9 of *Perceptual experience* poses the question, what role does perceptual experience play in epistemic justification? In broad strokes, the options are externalism and internalism. Externalism is the view that epistemic justification at least partially depends on factors external to the mind. Internalism is the view that epistemic justification only depends on factors internal to the mind. Internalism comes in two main varieties: access internalism and mentalism. Access internalism is the view that epistemic justification only depends on factors that are accessible to the agent. Mentalism is the view that epistemic justification depends only on internal factors, whether they are accessible or not.

Hill argues that externalism, specifically process reliabilism, is the superior theory. Process reliabilism is roughly the view that a belief is justified if and only if it is produced by a reliable belief-forming process. Hill holds that process reliabilism does better than internalism in four respects: (1) fitting our intuitions; (2) explaining why we should care about epistemic justification; (3) unifying the definition of knowledge; and (4) explaining why certain forms of epistemic luck do not amount to knowledge. Here I will focus on (1) fitting our intuitions and (2) explaining why we should care about epistemic justification. In the rest of this section, I will argue that mentalism does better in these respects than Hill suggests, while process reliabilism does worse.

4.1 | Fitting our intuitions

Hill argues that process reliabilism does a good job of fitting our intuitions (Hill, 2022, p. 222). When a belief is produced by a reliable process, we have the intuition that the belief is justified. When a belief is produced by an unreliable process, we have the intuition that the belief is unjustified. In the case of perceptual experience, when a reliable process takes an experiences as input and outputs a perceptual judgment, we have the intuition that the judgment is justified (Hill, 2022, p. 232).

I agree that reliabilism fits our intuitions much of the time. But so does mentalism. Consider the kind of process described above that takes a perceptual experience as input and outputs a perceptual judgment. Mentalists can say that we intuitively judge such a process to be justified because the perceptual experience is an internal justifier for the perceptual judgment. In the case of conscious experience, this kind of explanation is also available to access internalists. In the case of unconscious perception, it is not available to access internalists, but it is available to mentalists. When we intuitively judge a perceptual judgment to be unjustified, mentalists can explain this intuition by reference to an internal state (a conscious or unconscious perception) that does not adequately justify the judgment or the absence of the kind of internal state required for justification.

Given that process reliabilism and mentalism both fit our intuitions in these ordinary cases, the natural next step is to hold up these views to trickier test cases. For example, Bonjour points out that reliabilism produces unintuitive verdicts in the case of clairvoyance (Bonjour, 1980). In Bonjour's example, Norman the clairvoyant's beliefs are produced by a reliable clairvoyant process yet are intuitively unjustified. While Bonjour's example has been impactful in the literature, it is not psychologically realistic. Here, I want to offer a different, more psychologically realistic example that also puts pressure on process reliabilism's fit with our intuitions: beliefs formed by association.

Associations are transitions between thoughts or concepts in which the activation of one thought or concept triggers the activation of another (Mandelbaum, 2022). Associations are not governed by logical relations but instead by associative relations. These associative relations are typically (although not exclusively) formed due to a history of co-occurring stimuli.

Associations are a useful test case for process reliabilism because they are typically truth-preserving, but intuitively do not confer justification. Consider someone who associates peanut butter and jelly due to her history of sandwich-eating. She sees a jar of peanut butter in a friend's kitchen and thinks, "There must be jelly in the fridge". We can stipulate that the association that triggers this belief is reliable—where there is jelly, there is usually peanut butter. Yet intuitively, her belief does not seem justified. She is not using her knowledge of the statistical

likelihood of jelly appearing in peanut butter households as a premise in reasoning, but is instead experiencing an arational, brute causal association between the concepts PEANUT BUTTER and JELLY that happens to track truth.[1] In this example, reliabilism does not fit our intuitions.

This kind of example proliferates. Consider the application of biological kind concepts, which Hill discusses as a case that reliabilism explains well (Hill, 2022, p. 234). When an individual applies biological kind concepts (such as SKUNK or CAT) by using perceptual templates or explicit reasoning, we have the intuition that she is justified. This is compatible with both process reliabilism and mentalism. But consider a child who instead applies biological kind concepts through association. For example, she associates the visual image of her family's cat with the concept CAT because the cat is always in the same room whenever the child's mother explains what a cat is. But the child has neither a stored perceptual template for cats nor an explicit or implicit understanding of how her cat instantiates the essential properties of cats. Seeing her cat simply triggers an association with the concept CAT due to historical co-occurrence, which makes her think "There's a cat". Once again, this belief is intuitively unjustified, yet formed by a reliable process. The intuition that beliefs formed by reliable associations are unjustified becomes even stronger in cases that involve elaborate chains of association (e.g., the child applies the concept CAT by associating the visual image of her cat with his favorite mat, which rhymes with "cat").[2]

These examples illustrate that process reliabilism does not have a unique advantage over mentalism with respect to fitting our intuitions. A theory of epistemic justification should be able to explain why associations do not intuitively confer justification in the same way reasoning does. Mentalism can do this well by citing the lack of logical support between associated elements. Process reliabilism lacks this resource.

4.2 | Explaining why we should care about epistemic justification

Hill argues that another advantage of process reliabilism over internalism is that process reliabilism has an easy and satisfying answer to the question, "Why should I care about having beliefs that are epistemically justified?" (Hill, 2022, p. 223). Process reliabilism's answer is that beliefs formed by reliable processes tend to be true, and actions based on true beliefs are more likely to succeed than actions based on false beliefs. Hill argues that internalism cannot offer a similarly satisfactory answer because internalism does not have as tight a connection to truth, and hence does not have as tight a connection to successful action.

There are two ways the question, "Why should I care about having beliefs that are epistemically justified?" can be interpreted. First, this question might be posed from the point of view of someone who is only concerned with their self-interest. The reliabilist's answer speaks to this version of the question, but a more radically practical answer is ultimately preferable. True beliefs tend to lead to successful action, but they do not always. Consider the psychological research on depressive realism showing that depressed individuals tend to make more accurate judgments about themselves (Alloy & Abramson, 1979; Quilty-Dunn, n.d.). These true beliefs

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[1]I use all caps to denote concepts.

[2]Whether elaborate chains of association are effective counterexamples to reliabilism depends on how one type-individuates cognitive processes. See Lyons (2019) for a version of reliabilism that avoids the elaborate association chain version of this worry.

do not lead to successful action but instead accompany undermotivation and maladaptive behaviors. The flipside of depressive realism is overconfidence, which can increase motivation, ambition, and evolutionary fitness (Johnson & Fowler, 2011; McKay & Dennett, 2009; Sharot, 2010). These examples of divergence between true belief and success suggest that to truly maximize success we should base our actions directly on practical justification rather than on true beliefs. This undermines the reliabilist's explanation of the value of true beliefs in terms of their practical benefits.

Another way to interpret the question, "Why should I care about having beliefs that are epistemically justified?" is as asking what is intrinsically valuable about epistemic justification, rather than as asking how epistemic justification can help us achieve our goals. Answers to this version of the question might cite how epistemic justification figures in a form of ultimate and basic epistemic value. For example, one might say that justification is valuable because it is a component of knowledge or understanding. These kinds of answers are equally available to the internalist as to the externalist.

5 | CONCLUSION

I have focused here on points of disagreement, but my points of agreement with Hill are far greater. In *Perceptual experience*, Hill provides a model of interdisciplinary research, seamlessly weaving together considerations from developmental psychology, vision science, evolutionary biology, philosophy of mind, epistemology, and more. This builds to a comprehensive defense of representationalism, putting the theory on the firmest ground it has yet stood.

DATA AVAILABILITY STATEMENT
There are no data available.

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