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SYMPOSIUM

Philosophy and Phenomenological Research

Capacities First

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1 | RESPONSE TO RESCORLA

I am grateful to Michael Rescorla, Casey O'Callaghan, and Michael Martin for their thoughtful, sophisticated, and probing commentaries, which significantly advance the discussion of important issues.

1.2 | Accuracy conditions

Rescorla suggests a property-based view of perceptual content as an alternative to the property-instance based view that I advocate. Rescorla is right that I am committed to the idea that we cannot be perceptually related to properties, but only to property-instances (along with other mind-independent particulars, such as objects or events in our environment). To be clear, I do not deny that abstract entities or universals exist and that we can think about them. My point is that they are not the kind of things to which we can be perceptually related, since they are not spatio-temporally located and not causally efficacious. It is not clear how one could be perceptually related to something that is neither spatio-temporally located nor causally efficacious. So what we perceive are property-instances, not properties. I am thoroughly committed to an Aristotelianism about properties, and abstract entities more generally.[1] As I see matters, while the mind can operate with general elements, the perceivable entities in the world are exclusively particulars. In this respect, capacitism is Aristotelian to the core.[2]

Now, Rescorla agrees with me that we cannot be perceptually related to properties. He argues that even though we do not perceive them, we represent properties in virtue of attributing them to objects. One of his central motivations for arguing that we represent properties is to get the accuracy conditions of perceptual content right. He raises a range of concerns regarding my notion of accuracy conditions. I will address them by considering the token content of four distinct experiences:

[1]For a detailed discussion of this set of issues, see Schellenberg (2018), p. 145-50.

[2]For a recent account that is similarly driven by an Aristotelian metaphysics, see Peacocke (2019).

(e_1) a perception of object α_1 and property-instance π_1

(e_2) a perception of object α_2 and property-instance π_2

(h) a hallucination that has the same phenomenal character as perceiving α_1 and π_1

(i) an illusion that has the same phenomenal character as perceiving α_1 and π_1

According to Fregean Particularism, these four experiences are each constituted by employing the same perceptual capacities and thus are each an instance of the same functional type. We can write down the relevant content type as follows: $<MOP_{r\alpha}[\_\_], MOP_{r\pi}[\_\_]>$. This content type is not a gappy content, but rather a content schema. While the four experiences are each instances of this same functional type, their token contents differ. They differ since a token is constituted not only by the perceptual capacities employed, but also by the environmental particulars (if any) thereby singled out. It is worth noting here that I am working with an extreme case of hallucination in which one does not perceive any particulars in one's environment: one hallucinates an object that seemingly instantiates a property. Since in such a hallucination no object and no property-instance is present, the content of the hallucination is gappy in both the object and the property-place. The analysis of such a radical case of hallucination easily generalizes to cases in which one perceives one or more objects and property-instances and hallucinates just one object along with the properties it seemingly instantiates as well as cases in which one hallucinates only property-instances.[3] According to the formalism that I develop in the book, the token contents of the four experiences can be written out as follows:

($content_{e1}$) $<MOP_{r\alpha}(\alpha_1), MOP_{r\pi}(\pi_1)>$

($content_{e2}$) $<MOP_{r\alpha}(\alpha_2), MOP_{r\pi}(\pi_2)>$

($content_h$) $<MOP_{r\alpha}(\_\_), MOP_{r\pi}(\_\_)>$

($content_i$) $<MOP_{r\alpha}(\alpha_1), MOP_{r\pi}(\_\_)>$

As I argue in Part II of *The Unity of Perception*, perceptual capacities and modes of presentation are flipsides of the same coin. $MOP_{r\alpha}(\alpha_1)$ is a *de re* mode of presentation that is constituted by employing a perceptual capacity that functions to discriminate and single out particulars such as α_1 and the very particular thereby singled out—in this case α_1. Similarly, $MOP_{r\pi}(\pi_1)$ is a *de re* mode of presentation that is constituted by employing a perceptual capacity that functions to discriminate and single out particulars such as π_1 and the very particular thereby singled out—in this case π_1. $MOP_{r\alpha}(\_\_)$ is a gappy token content. It specifies the kind of particular that would have to be present for the experience to be accurate and is constituted by employing a perceptual capacity that functions to single out objects of the kind that the hallucinating subject purports (but fails) to single out. Since the capacity is employed baselessly, the ensuing content is gappy.

Rescorla argues that intuitively the content of the perception e_1 and the content of the illusion i (that is, $content_{e1}$ and $content_i$) have the same accuracy conditions. I do not share this intuition. Let me explain why. There are views that equate accuracy conditions with perceptual content. I think that is mistake. The relationship between content and accuracy conditions is more complex than identity.

[3]See Macpherson and Batty (2016) for a discussion of the many variations of illusions and hallucinations

The accuracy conditions specify the way the environment of a subject would have to be for the content of her perceptual state to be accurate:

(AC) The content c of a perceptual state brought about by being perceptually related to environment E is accurate if and only if E is the way c represents E to be.

So the content

$(content_{e1}) <MOP_{r\alpha}(\alpha_1), MOP_{r\pi}(\pi_1)>$

is accurate if and only if the object α_1 and the property-instance π_1 are present where the subject perceives α_1 and π_1 to be. The content

$(content_{e2}) <MOP_{r\alpha}(\alpha_2), MOP_{r\pi}(\pi_2)>$

is accurate if and only if the object α_2 and the property-instance π_2 are present where the subject perceives α_2 and π_2 to be.

What about the accuracy conditions of gappy contents? I argue that a gappy content is necessarily inaccurate simply because of its gappiness. After all, a gappy content could never be accurate. However, the fact that gappy contents are necessarily inaccurate does not entail that they do not specify accuracy conditions. Let's consider first the hallucination h with the content $<MOP_{r\alpha}(\_\_), MOP_{r\pi}(\_\_)>$. What accuracy conditions does it specify? The content of such a hallucination specifies the kind of object and the kind of property-instance that would have to be present for the content to be accurate without specifying which particulars of these kinds. It does not specify which particular of these kinds, since any particulars of the relevant kinds will do.

What accuracy condition does the token content of an illusion specify? The content of an illusion in which one perceives object α_1 and it seems to one that a property-instance is present that is not in fact present is accurate if and only if the object α_1 is present and it specifies what kind of property-instance would have to be present for the content to be accurate without specifying which particular of that kind. Thus, the accuracy condition of $content_{e1}$ (the content of the perception e_1) differs—contra Rescorla—from the accuracy conditions of $content_i$ (the content of the illusion i). While the token content of a perception specifies which particular property-instance has to be present, the token content of an illusion specifies only what kind of property-instance has to be present. The token content of an illusion does not specify what particular property-instance has to be present, since any instance of the relevant property will do. Another way of expressing what is going on here is that we have a sense without reference. There is enough structure for the content to specify what kind of property-instance would have to be present, but not enough to specify which specific property-instance has to be present. Contra Rescorla, I would argue that it is unclear how a view on which the content of perception and illusion is exactly alike could get the accuracy conditions right.

1.3 | Perceptual Attribution vs. Perceptual Discrimination

In my book, I distinguish the discrimination thesis that I endorse from the attribution thesis (Schellenberg 2018, p.67):

Discrimination Thesis: Perception is constitutively a matter of employing perceptual capacities by means of which we discriminate and single out particulars.

Attribution Thesis: Perception is constitutively a matter of attributing properties to objects.

Rescorla questions my focus on discriminatory, selective capacities rather than his preferred attributional capacities.[4] The reason I focus throughout on discriminatory, selective capacities is that these low-level capacities are constitutive of perception. It is not clear what it would be to perceive a particular without at the very least discriminating that particular. I do not disagree with Rescorla that there might be capacities employed in perception that are not discriminatory, selective capacities, such as for example attributional capacities. But I see no argument that those capacities are necessary for perception. As I argue, while perceptual discrimination is necessary, perceptual attribution can occur, but is not necessary for perception. We can perceive without attributing properties to objects. We cannot perceive without discriminating environmental particulars. According to capacitism, any attribution of properties will be grounded in discrimination and representation of property-instances.

In order to get clearer on what is at stake, it will be helpful to take a closer look at the nature of discrimination and attribution. In the tradition of Weber and Fechner, a standard understanding of discrimination is the following.

Perceptual Discrimination: A subject *S* perceptually discriminates a particular α_1 only if *S* detects a difference between α_1 and another particular in *S*'s environment.

The difference detected can be detected over time. So discrimination does not require there to be two particulars present at any given time. Discrimination can occur between a particular to which one is perceptually related at time t_1 and a particular to which one is perceptually related at time t_2. Moreover, the difference detected can, but need not, be a just-noticeable difference.[5]

A standard explanation of attribution focuses on the fact that accepting the attribution thesis entails that perception has the structure of perceiving *as*, that is, it entails that in any case of perception an object or event is perceived as having a property, where that property is attributed to the object or event. While Rescorla takes the fundamental structure of perception to be perceiving *as*; I argue that the fundamental structure of perception is to discriminate and single out particulars.

In my book, I argue against the attribution thesis in light of arguments by Baron Marcus (1961), Donnellan (1966), and Kripke (1972) showing that one can refer to an object in one's environment even if the properties one attributes are not instantiated by that object. I argue that cases of false attribution show that what ultimately guides perceptual representation is not attribution of properties, but rather something more fundamental, such as, discriminating and singling out particulars. There are many further advantages of the discrimination thesis over the attribution thesis. Accepting that discrimination is more fundamental than attribution avoids any commitment to perception necessarily having the structure of perceiving *as* and thus avoids over-intellectualizing perception. Moreover, the discrimination thesis can account for cases in which we perceive only property-instances as well as olfactory, gustatory, and tactile perceptions that do not have the structure of perceiving an object as something. Here I will focus on discussing the metaphysical differences between discrimination and attribution views of perception, thereby providing further reasons for favoring the discrimination view.

The key issue between Rescorla and myself is that perceptual content, according to capacitism, is particular all the way down: the property-instances we perceive are in our environment in the very

[4]For an account on which the fundamental structure of perception is attributional, see also Burge 2010 and Block 2014.

[5]For a classical discussion of just-noticeable differences, see Booth and Freeman (1973).

same way that the objects and events we perceive are in our environment and the representation of these particulars constitutes the singular element of perceptual content. The background metaphysical dispute between Rescorla and myself is that Rescorla rejects this idea and argues rather that the singular element of perceptual content is always either an object or an event and that we attribute properties to those objects and events. To be clear, I am not arguing that there are no metaphysical differences between objects, events, and property-instances, nor am I arguing that the perceptual system treats them on a par in all respects. I am arguing that objects, events, and property-instances are on a par in so far as they are external, mind-independent particulars that we discriminate and single out in perception. The metaphysical differences between them as well as the predicative structure of our language has misled us to attributional accounts of perception that fail to do justice to the fundamental structure of perception as our primordial connection to the world. I argue that we should reject attributional accounts in favor of discriminatory accounts.

The attributive view is most famously developed by Burge (2010). While Burge and Rescorla allow that we perceive particulars (where those particulars could be property-instances); on their views, the singular element of perceptual content is always an object or an event (and not a property-instance). According to Burge and Rescorla, the property aspect of perceptual content is a mode of presentation by means of which an object is singled out. Thereby the property is attributed to that object. The object or event singled out constitutes the *de re* element of the Fregean sense. The property-instance perceived cannot on Burge and Rescorla's framework constitute the *de re* element of a Fregean sense.

By contrast, according to capacitism, perceptual content is constituted by employing a perceptual capacity and a particular (if any) discriminated and singled out by employing that perceptual capacity. The relevant particular can be an object, property-instance, or an event. By contrast to Burge and Rescorla's views, the property aspect of perceptual content is, according to capacitism, not a mode of presentation. So in contrast to Burge and Rescorla's views, capacitism has it that perceptual content is singular even if only one property-instance (and no object) is perceived. It is not required that a subject perceives an object for her content to be singular. According to capacitism, a mode of presentation is constituted by employing a perceptual capacity and a particular (if any) thereby discriminated and singled out. The object, event, or property-instance singled out constitutes the *de re* element of the mode of presentation.

Now, Rescorla argues that in the case of an illusion we are forced to appeal to attributional capacities. I disagree. Indeed, not only do I argue that we need not appeal to attributional capacities to account for illusions, I would say that a better way to analyze illusions is to argue that one employs discriminatory capacities baselessly. One employs a discriminatory capacity baselessly since no relevant property-instance is present. Due to failing to single out a relevant property-instance, the ensuing content is gappy in the relevant property-place. Say Kim is perceptually related to a red cup but perceives it to be white rather than red. I argue that in such a case Kim employs her perceptual capacity to discriminate and single out an instance of white, but since no instance of white is present, she fails to discriminate and single out any white-instance. So she employs the perceptual capacity baselessly and the content of her mental state is gappy in the relevant property-place. Thus, I see no good reason to say that illusions necessarily involve employing attributional capacities.

In short, Burge, Rescorla, and I agree that we are perceptually related to particulars. According to capacitism, those particulars are the particulars we represent (under modes of presentation). By contrast, the attribution view drives a wedge between what we are perceptually related to (objects, events, and property-instances) and what we represent (objects, events, and properties). Thus, the attribution thesis creates a discord between what we are perceptually related to and what we represent.

2 | RESPONSE TO MARTIN

2.1 | Perceiving Properties vs. Perceiving Property-Instances

Martin asks whether all property perception is perception of property-instances. In response: yes. For the reasons outlined in response to Rescorla's comments (see above), I argue that we never perceive properties, but only particulars such as property-instances, objects, or events. While one could accept big parts of capacitism while rejecting this particularist commitment, there are powerful reasons to adopt it. More specifically, Martin raises a case in which a subject is perceptually related to two yellow "O"s and one red "H", but reports seeing two red "O"s and one yellow "H". He argues that in this case, we perceive properties rather than property-instances and so universals rather than particulars.

In response, not only do I see no reason to appeal to properties to analyze Martin's yellow/red letter case, there are powerful reasons not to analyze the case as one in which the subject standing in an awareness relation to a property. The mistake the subject is making is a binding mistake. She perceives the relevant objects and property-instances but does not bind them the right way. Now, Martin points out there is no need to specify which instance of yellow is falsely bound with the H-shape. That is true. But that is not a problem. For the analysis I propose, all we need is that one of the yellow-instances is falsely bound. It is irrelevant which of the two it is and the subject can be oblivious as to which one it is. There is no need for the subject to have any awareness of such subtle matters. There are far less subtle matters of which perceivers lack awareness. So contra Martin, I see no reason to appeal to properties to analyze the case.

2.2 | Phenomenological particularity

In my book, I distinguish between relational particularity and phenomenological particularity. I argue that a mental state manifests phenomenological particularity if and only if it phenomenally seems to the subject that there is a particular present. By contrast, a subject's perceptual state M brought about by being perceptually related to the particular α is characterized by relational particularity if and only if M is constituted by α (Schellenberg 2018, p. 17). Loosely speaking, we can say that while phenomenological particularity tracks the way the world seems to a subject, relational particularity tracks the way the perceivable world is (regardless of how it seems to the subject). Now, Martin asks about my notion of phenomenological particularity questioning whether it is to be understood such that (1) it phenomenally seems to the subject [$\exists x$ x is a particular $\wedge$ x is present] or (2) $\exists x$ such that it phenomenally seems to the subject that [x is a particular $\wedge$ x is present]. Martin claims that my "text does not decisively settle the question which disambiguation is intended".

In response, immediately after I introduce the notion of phenomenological particularity, I clarify the question of scope and so make explicit that I understand the notion of phenomenological particularity according to (1):

> "A mental state manifests phenomenological particularity if and only if the particularity is in the scope of how things seem to the subject: phenomenological particularity does not require that there be a particular that seems to the subject to be present, only that it seems to the subject that there is a particular present" (Schellenberg 2018, p. 17).

This rules out Martin's second suggested reading (2). On the view I develop, phenomenological particularity does not require that there be a particular that seems to the subject to be present, only that it seems to the subject that there is a particular present.

2.3 | Relational particularity

A question that arises for the notion of relational particularity is what it takes for a particular to be constitutive of a perceptual state such that the perceptual state is characterized by relational particularity in virtue of that particular. If one sees smoke, does one see fire in virtue of seeing smoke? Is one's perceptual state characterized with relational particularity regarding the smoke and the fire or only regarding the smoke? More generally, if one sees particular α_1, and particular α_1 is evidence for the presence of particular β_1, does one see β_1 in virtue of seeing α_1? To address this question, it will be helpful to consider the details of a specific case. Robinson Crusoe, stranded on a desert island, thinks he is the only person on the island until one day he sees a footprint on the sand. In virtue of seeing the footprint it seems to him that someone else is on the island. The footprint happens to have been made by Man Friday, but Robinson Crusoe does not know this at the time of first seeing the footprint. Does Robinson Crusoe see Man Friday in virtue of seeing the footprint?

Martin holds that the relevant particular that characterizes the relational particularity of Crusoe's perceptual state when he is perceptually related to the footprint is Man Friday and argues that capacitism gives the wrong verdict on the case. I disagree on both accounts. Here is how I would analyze the case: Robinson Crusoe perceives the footprint and his perceptual state is characterized by both phenomenological and relational particularity regarding the footprint (and not regarding Man Friday). I agree with Martin that it *seems* to Crusoe that there is someone else on the island. But the nature of seeming's are notoriously complex.[6] In this case, there is no reason to think that the relevant seeming is perceptual. In fact, there are powerful reasons in support of the seeming being non-perceptual. After all, on the basis of seeing the footprint and his background knowledge about the relation between a footprint in sand and the fact that the footprint must have been made by someone recently, Crusoe infers that someone else must be on the island. The particular that he perceives is the footprint. On the basis of perceiving this footprint, he judges that someone else is on the island. So contra Martin, I see no reason why the particular that characterizes the relational particularity of Crusoe's perceptual states when seeing the footprint would be Man Friday. More generally, we can say that a necessary condition for a particular to be constitutive of a perceptual state such that the perceptual state is characterized by relational particularity in virtue of that particular, the subject must be perceptually related to that particular and discriminate and single out the particular.

2.4 | The particularity of visualization

Martin asks about the particularity of cases in which one visualizes rather than perceives a particular. In response, I treat visualization analogous to the way I treat hallucination and illusion in that it manifests phenomenological particularity without being characterized by relational particularity. In both visualization and hallucination, one employs perceptual capacities in virtue of which one is in a mental state that purports to be of a particular. While hallucination and visualization are similar in this respect, there are important differences between the two. Visualization differs from hallucination in that in the typical case of visualization one is aware that one is visualizing, whereas in hallucination one may not be aware that one is hallucinating.

More specifically, Martin asks specifically about a case of visualization in which one sees a scene and the visualization involves simply relocating one object in that scene. In such a case, the mental state will

[6]For a recent excellent discussion of seemings, see Feeney (2019).

be perceptual in all respects except for that one location property and thus will manifest relational particularity in all respects except for that one location property. With respect to that one location property, the mental state will be characterized by mere phenomenological particularity. The illusory analog of the visualization case that Martin describes would be one in which one sees a scene but suffers an illusion as of the location of one object. As in the visualization case, I would argue that the subject's perceptual state will be characterized by relational particularity in all respects except for that one location property.

2.5 | Dependence and independence of experience on environmental objects?

A final set of questions that Martin raises concerns whether experience is dependent on or independent of environmental objects. In response, I avoid analyzing relationships in terms of dependence or independence, since such relations are on multiple dimensions ambiguous. A less ambiguous relation is that of constitution and this is the relation on which I focus. Moreover, constitution entails dependence: if *A* is constituted by *B*, then *A* depends on *B* (but the converse is not true). To address the question of whether experiences is dependent on or independent of environmental particulars, several distinctions need to be made. First, it is helpful to distinguish three levels on which mental states can be analyzed within the framework of capacitism:

1st Level of Analysis: the function of mental capacities

2nd Level of Analysis: the mental capacities employed, irrespective of the context in which they are employed

3rd Level of Analysis: the mental capacities employed, taking into account the context in which they are employed[7]

I argue that perceptual capacities are individuated by the environmental particulars they function to discriminate and single out (Schellenberg 2018, p. 38). For example, the perceptual capacity that functions to discriminate and single out red from other colors is individuated by instances of red. Thus, regarding their individuation conditions, perceptual capacities are dependent on environmental particulars, namely those that the capacity functions to discriminate and single out. So on the 1st level of analysis, the answer to Martin's question is that the perceptual capacities that constitute perceptual states are dependent on environmental particulars due to their individuation conditions.

However, *employing* perceptual capacities is not dependent on the presence of any relevant particulars in the environment of the experiencing subject. So on the 2nd level of analysis, experience is independent of environmental particulars. Employing perceptual capacities constitutes perceptual consciousness (irrespective of the environment in which they are employed). Thus, if the token experience that Martin mentions is the token phenomenal character of the perceptual state, then the answer is simple: it is not constituted by environmental particulars. On this 2nd level of analysis, any particularity is mere phenomenological particularity. However, while I analyze phenomenal character as constituted by employing perceptual capacities irrespective of the environment in which they are employed (2nd level of analysis), the perceptual capacities are in turn individuated by the mind-independent

[7]For details on these three levels, see Schellenberg (2018), p. 33f.

particulars they function to single out (1st level of analysis). So if one takes the 1st level of analysis into account, even mere phenomenal character is, via the individuation condition of the capacities employed, dependent on environmental particulars. After all, the capacities are individuated by the particulars that they function to single out.

What is the response to Martin's question on the 3rd level of analysis? I argue that the token content of any given perception is constituted by the particulars (if any) perceived. Since constitution implies dependence, the token content of perceptual experience is dependent on the particulars (if any) perceived. So if the token experience that Martin asks about is the token content of a perception, then the answer is simple: the token content of perception is constituted by the particular perceived, and so dependent on that particular. Note however that the token content of a hallucination is not constituted by any particulars (assuming the hallucinating subject fails to perceive any environmental particulars). On this 3rd level of analysis, the question is whether the perceptual state is characterized by relational particulars (over and above mere phenomenological particularity).[8]

3 | RESPONSE TO O'CALLAGHAN

3.1 | The upper and lower bounds of perceptual capacities

O'Callaghan helpfully brings out the psychophysical roots of my view, showing how my notion of perceptual capacities as discriminatory, selective capacities is grounded in the neuroscience and psychophysics of perception. He then asks how we can demarcate perceptual capacities from more high-level capacities, on the one hand, and from more low-level capacities on the other. In my book, I focus on perceptual capacities but ultimately my goal is to analyze all mental states in terms of mental capacities. So O'Callaghan's question is even more pressing than it might initially seem. After all, if all states, processes, and events of the mind are analyzed in terms of mental capacities, then the question arises as to what distinguishes perceptual capacities from other mental capacities. This is a big topic that cannot be adequately addressed in a short response paper, but here are some preliminary thoughts.

What is the upper bound constraint? How can we demarcate perceptual capacities from the mental capacities employed in belief, imagination, inferences, among other such mental states? There are two key elements that demarcate perceptual capacities from cognitively more high-level mental capacities: their function and the nature of their employment. More precisely, we can specify the upper bound constraint as follows:

> *Upper Bound Constraint*: Perceptual capacities function to discriminate and single out external mind-independent particulars and can be employed in a sensory mode.

Let me elaborate. First, the function of perceptual capacities is to discriminate and single out environmental particulars. No doubt, at least some non-perceptual capacities may be employed to discriminate and single out environmental particulars, but that is not their central function. For example, the function of inferential capacities is not to discriminate and single out particulars,

[8]Martin points out also that I do not refute awkwardism—a fictional view he sketches in his comments—and claims that I need to do so for my own proposal to stand. As Martin notes further, my focus throughout the book is to develop my positive proposal. I discuss and criticize other views only to the extent that it helps develop capacitism; including fictional views such as Martin's awkwardism. Arguably it is not necessary, pace Martin, to refute other views (be they fictional or not) to defend one's own.

but is rather to make valid inferences. If one employs an inferential capacity and makes a valid inference, one is in the good case. If one employs an inferential capacity and fails to make a valid inference, one is in the bad case. By contrast, perception is at its core a matter of discriminating and singling out environmental particulars. In belief, we may occasionally employ cognitive capacities and thereby discriminate and single out an external mind-independent particular. This may occur, for example, in singular beliefs. However, while the capacities employed in perception have the function to discriminate and single out environmental particulars and fulfill this function when employed in perception, the capacities employed in belief, may, but need not, discriminate and single out external particulars.

Second, in contrast to other mental capacities, perceptual capacities are employed in a sensory mode, such as vision, audition, taste, touch, or olfaction. Now, it is plausible that in some cases of imagination, namely perceptual imagination, perceptual capacities are employed; and it may even be that in some such cases, perceptual capacities are employed in a sensory mode. But while perceptual capacities are necessarily employed in a sensory mode in perception, they are not necessarily employed in a sensory mode in imagination and other non-perceptual faculties.

What are the lower bounds of perceptual capacities? How can we demarcate perceptual capacities from more low-level capacities that feature in the visual system, the auditory system, and other perceptual systems?

Lower Bound Constraint: Perceptual capacities can be employed at a personal level.

To be clear, perceptual capacities need not necessarily be employed at a personal level, but they could be. The discriminatory capacities of our rods and cones cannot be employed at a personal level and so those capacities are not perceptual capacities as I am using the term—even though they are, of course, key to the proper functioning of our visual system. The constraint that perceptual capacities can be employed at a personal level does not imply that they are employed intentionally and voluntarily—although occasionally they are. If one, for example, takes a realistic painter's point of view, then one may be using perceptual capacities intentionally or voluntarily. But while one can employ at least some perceptual capacities intentionally or voluntarily, neither is necessary.

It is helpful to point out here that analyzing perceptual states (and, as I argue, perceptual content) as constituted by employing perceptual capacities allows us to sidestep the terminological aspects of the debate on whether perceptual content is conceptual or nonconceptual. Depending on how concepts are understood and what is required for concept possession it is more or less plausible that perceptual content is conceptual. For example, if possessing concepts requires inferential capacities, then it is highly implausible that perceptual content is conceptual. However, if it is argued that perceivers such as honeybees possess concepts, then it is more plausible that perceptual content is conceptual. With the aim of accounting for the fact that at least some aspects of perceptual content can be image-like or map-like, and moreover to account for the richness and fineness of grain of perceptual experience, I argue that perceptual capacities are nonconceptual capacities. If perceptual content is constituted by employing such nonconceptual capacities, then perceptual content is nonconceptual. The thesis that perceptual content is constituted by employing perceptual nonconceptual capacities gives a substantive analysis of the nonconceptual content of perception.

3.2 | The fallibility of perceptual capacities

In my book, I develop the fallibility condition on perceptual capacities:

> *Fallibility Condition:* If a subject *S* employs a capacity C_α, C_α can either fulfill its function or fail to fulfill its function, such that there is no difference at the level of employing C_α but only a difference at the level of fulfilling its function. The function of C_α is fulfilled if by employing C_α a relevant particular is singled out. The function of C_α fails to be fulfilled if by employing C_α no relevant particular is singled out (Schellenberg 2018, p. 43).

O'Callaghan takes issue with this condition and thus with the idea that any given capacity can be employed while successfully singling out what it functions to single out or while failing to do so. In response, it is worth noting up front that one can accept key aspects of capacitism while denying that perceptual capacities are fallible. Denying that perceptual capacities are fallible would entail a disjunctivist version of capacitism. While this route is an option, I do not recommend it and I do not take it myself. There are at least three powerful reasons for why perceptual capacities are best understood to be fallible.

One reason for accepting the fallibility condition stems from an analogy to concepts: There is no good reason to deny that we can employ a concept while failing to refer. Indeed, on all standard views of concepts, we can, for example, employ the concept HORSE while referring to a horse, or employ the concept while failing to refer to a horse. In both cases, one has employed the concept HORSE. The difference between the two situations is whether one has succeeded in referring to a horse. While perceptual capacities are not concepts, in this respect they are alike: We can employ them while fulfilling their function to discriminate and single out a particular and we can employ them while failing to fulfill their function to discriminate and single out a particular. In both cases, one has employed the capacity. The difference between the two cases is whether one has succeeded in discriminating and singling out a particular. Any view on which employing perceptual capacities is said to be infallible faces the challenge of explaining why perceptual capacities would be infallible while concepts are fallible. Even though perceptual capacities are in many ways different than concepts, I see no good reason to think that they are different with regard to their fallibility.

A second reason stems from the idea that a perceptual capacity is a kind of mental mechanism. A mechanism is something that can be employed while fulfilling its function or while failing to fulfill its function. Consider a bike. A bike has the function to transport someone down the road. Let's say my bike needs to be repaired. I bring it to a bike shop and come back a few days later to pick it up. The bike is suspended in air. I spin its wheels and see that its mechanics are in good order. When its wheels are spun while being suspended in air, the bike does not fulfill its function of transporting someone down the road. But the mechanics of the bike are working as they should. While bikes and perceptual capacities differ in most respects, we can think of the case of hallucination in analogy to the bike suspended in air. The environment is not playing along, but all else is working as it should. If the wheels of the bike are spinned while the bike is suspended in air, the mechanics of the bike is activated without the bike fulfilling its function. Similary, in hallucination one employs perceptual capacities without those capacities fulfilling their function.

A third reason for accepting the fallibility condition stems from neuroscientific evidence. When we hallucinate, say an apple, the same neural pathways get activated as when we perceive an apple (Ffytche 2008). This is not conclusive evidence that the same perceptual capacities are employed. After all, perceptual capacities are not neural pathways. But given that employing perceptual capacities has a neural base, then this is some evidence in support for the theses that the same perceptual capacities are employed in perception, hallucination, and illusion.

Now, as O'Callaghan notes, in hallucination one employs perceptual capacities unsuccessfully. Tragically, there are countless ways to be unsuccessful. I argue that in hallucination the perceptual

mechanism is operating as it should. In virtue of this, one is in a mental state with phenomenal character—one that is potentially indistinguishable from a perception. We can distinguish between two success conditions:

Employment condition: The subject employs a mental capacity.
Fulfillment condition: The subject employs a mental capacity while fulfilling its function.

While the employment condition is an internal success condition, the fulfillment condition is an external success condition. We can correlate the employment and the fulfillment conditions with the three levels on which we can analyze mental states.[9] The employment condition specifies success at the second level of analysis, while the fulfillment condition specifies success at the third level.

In hallucination, as in perception, the employment condition is met: the mechanism is operating as it should. However, in hallucination, the fulfillment condition is not met since the environment is not playing along: the function of the capacities to discriminate and single out environmental particulars is not fulfilled. So while in hallucination, the employment condition is met, but the fulfillment condition is not; in perception, both the employment and the fulfillment conditions are met.

Now, O'Callaghan argues that one cannot distinguish between internal and external success conditions as I do. But I disagree. To explain why, consider Megan who is an exceptional soccer player. She has the capacity to kick a ball. Sometimes, she employs it to kick a ball, sometimes she employs it to kick without any ball present to be kicked. Sometimes, she visualizes kicking a ball (without moving her limbs). In the first and the second case, she is employing her capacity and so the employment condition is met. But only in the first case does she in fact kick a ball and so only in the first case is the fulfillment condition met. One could argue that in the case of visualization the employment condition is met as well (but this is controversial and I will here leave this issue to the side).

3.3 | Perceptual content, repeatability, and the fallibility of perceptual capacities

In a series of papers culminating in my book, I argue that employing perceptual capacities constitutes representational content.[10] O'Callaghan challenges my argument that if one acknowledges the role of discriminatory, selective capacities, then one must acknowledge that perceptual states have representational content. He argues that if perceptual capacities are not fallible, then my argument that perceptual experiences have content would fall through. In response, as I argue in the previous section, we should think of perceptual capacities as fallible. But let's assume for the sake of argument that capacities are not fallible. Even if one denies the fallibility of perceptual capacities, my argument for perceptual content would nonetheless be untarnished. After all, my perceptual content argument hinges on the repeatability of perceptual capacities and is neutral on their fallibility.[11] Even if one denies their fallibility, perceptual capacities will be repeatable. For a perceptual capacity C_α to be repeatable it is required only that it must be possible to employ C_α in at least two distinct contexts.[12]

[9]See Section 2.5. above and Schellenberg (2018), p. 33.

[10]See in particular Chapter 3 and Chapter 5 of Schellenberg (2018).

[11]For my perceptual content argument, see Schellenberg (2018), p. 114-135.

[12]For the repeatibility condition on perceptual capacities, see Schellenberg (2018), p. 48.

The two contexts may differ in at least four ways. First, the contexts could differ temporally: C_α can be employed to discriminate and single out the particular α_1 at time t_1 and at time t_2. Second, the contexts could differ spatially: C_α can be employed to discriminate and single out α_1 at location L_1 and at location L_2. Third, the contexts could differ with regard to the situational features that determine the conditions under which a particular is perceived—features such as lighting conditions, acoustic conditions, or the angle and distance from which the particular is perceived: C_α can be employed to discriminate and single out α_1 under distinct situational features. A fourth way is with regard to the particulars singled out. In one context, C_α can be employed to discriminate and single out the particular α_1, in another to discriminate and single out the particular α_2, where α_1 and α_2 are numerically distinct particulars each of which C_α functions to discriminate and single out.

As these examples of distinct contexts show, the bar for a perceptual capacity to be repeatable is low. Now it might be that one possesses a perceptual capacity that one has—for whatever reason—employed only once, or indeed never. The requirement is not that one has in fact employed a perceptual capacity more than once, but that it is possible to employ that capacity in at least two distinct contexts.[13]

While denying the fallibility of perceptual capacities leaves my perceptual content argument unscathed, it does however have consequences for the nature of perceptual content. To show how, let's assume again a disjunctivist version of capacitism, that is, a version of the view on which capacities are not fallible. On such a view, the token content of a perception and the token content of a hallucination with the same phenomenal character could (in contrast to the version of the view I develop) never be constituted by employing the same perceptual capacities and thus would not be instances of the same functional type.

To sum up, we can agree with O'Callaghan that if illusions and hallucinations are not constituted by employing the same perceptual capacities that yield a perception with the same phenomenal character, then the illusion and hallucination need not involve mental states sharing success conditions with that perception. However, my argument that employing perceptual capacities constitutes perceptual content, if right, holds even for such a disjunctivist version of capacitism.

3.4 | Naturalism and normativity

The distinction between employing a capacity while fulfilling its function and employing the same capacity while failing to fulfill its function is built into the foundations of capacitism.[14] O'Callaghan raises the question as to whether this fact brings in normativity at the very foundation of my account thus undermining my naturalistic ambitions. In response, the distinction does not bring in a normative dimension and does not undermine my naturalistic ambitions. To explain, consider the fact that the heart has the function to pump blood. Sometimes hearts fail to fulfill their function. That fact does not entail that there is anything normative about hearts or their function. The very same thing can be said about perceptual capacities. Now one could insist that any distinction between fulfilling or failing to fulfill a function brings in normativity. If one does this, then there would be something normative

[13]It may be that at least some particulars are correlated with a unique perceptual capacity. This is plausible if one allows that perceptual capacities are quite high-level. Let's assume that Robin possesses a perceptual capacity to discriminate and single out his mother. This perceptual capacity will be individuated by exactly one particular in the world. Nonetheless, the perceptual capacity is repeatable. After all, Robin can employ his capacity to single out his mother today and also tomorrow.

[14]The more substantive notions of success, satisfaction, accuracy, and correctness are not part of the foundations of the view. They come in at a later stage, only once the notion of content is established.

about hearts (or their function). The notion of normativity would now be hollowed out to such an extent that bringing in such normativity at the foundation of a view would not undermine the naturalistic aims of that view. After all, even if we say that there is something normative about hearts in virtue of their function to pump blood, no one would deny that hearts are natural. Thus, either way, my naturalistic ambitions are safe.

O'Callaghan suggests as an alternative that I appeal to capacities to represent—rather than my preferred capacities to discriminate and single out. In response, that is a viable alternative and one that others have pursued (see Burge 2010 and Rescorla 2014). I appeal to discriminatory capacities rather than capacities to represent, since I aim to explain representational content in terms of something that does not already appeal to representation. Any view of representational content must explain in virtue of what a mental state has a specific representational content. I analyze representational content as constituted by employing capacities to discriminate and single out particulars—that is, capacities that do not already appeal to representation. I do not appeal to capacities to represent since it is implausible that they are the founding block of perception. As it is explanatorily unsatisfying to analyze knowledge in terms of employing capacities to know, it is explanatorily unsatisfying to analyze representational content in terms of capacities to represent. I analyze both knowledge and representational content in terms of capacities that do not already presuppose what they are used to explain. Thereby, I ground knowledge and representational content in more basic properties of perception, namely its discriminatory core.

REFERENCES

Barcan Marcus, R. (1961). Modalities and intentional languages. *Synthese*, *13*, 303–322.

Block, N. (2014). Seeing-as in the light of vision science. *Philosophy and Phenomenological Research*, *89*, 560–572.

Block, N. (2021). *The border between seeing and thinking*. Cambridge, MA: MIT Press.

Booth, D. A., & Freeman, R. P. J. (1973). Discriminative measurement of feature integration. *Acta Psychologica* (Amsterdam).

Burge, T. (2010). *Origins of objectivity*. Oxford: Oxford University Press.

Donnellan, K. (1966). Reference and definite descriptions. *The Philosophical Review*, *75*, 281–304.

Feeney, M. (2019). *A defense of liberalism in the epistemology of perception*. Rutgers University, Department of Philosophy, Dissertation.

Ffytche, D. H. (2008). The hodology of hallucinations. *Cortex*, *44*, 1067–1083.

Kripke, S. (1972). *Naming and necessity*. Cambridge, MA: Harvard University Press.

Macpherson, F., & Batty, C. (2016). Redefining illusion and hallucination in light of new cases. *Philosophical Issues*, *26*, 263–296.

Peacocke, C. (2019). *The primacy of metaphysics*. Oxford: Oxford University Press.

Rescorla, M. (2014). Perceptual constancies and perceptual modes of presentation. *Philosophy and Phenomenological Research*, *88*, 468–476.

Schellenberg, S. (2018). *The Unity of Perception: Content, Consciousness, Evidence*. Oxford: Oxford University Press.