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ORIGINAL RESEARCH

Perceptual capacitism: an argument for disjunctive disunity

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Abstract

According to *capacitism*, to perceive is to employ personal-level, perceptual capacities. In a series of publications, Schellenberg (2016, 2018, 2019b, 2020) has argued that capacitism offers unified analyses of perceptual particularity, perceptual content, perceptual consciousness, perceptual evidence, and perceptual knowledge. "Capacities first" (2020: 715); appealing accounts of an impressive array of perceptual and epistemological phenomena will follow.

We argue that, *given* the Schellenbergian way of individuating perceptual capacities which underpins the above analyses, perceiving an object does not require employing a perceptual capacity which picks it out. Although each eye, used on its own, can suffice for perceiving objects in one's environment, binocular vision allows one to see the same object(s) via both eyes, taking advantage of informational disparities registered by each eye. Yet in certain conditions it is possible to simultaneously see one object via the left eye and a distinct object via the right eye (at least when the inputs are sufficiently similar to prevent the onset of binocular rivalry). We argue that capacitism has trouble making sense of this. After surveying responses, we conclude that not *all* of the above phenomena can be unified under the capacitist framework. We then present a more nuanced, disjunctivist account of how capacities are individuated. While it may be illuminating to think of perceiving as the employment of perceptual capacities, this picture does not best favour a 'common factor' theory of perceptual content in the way existing presentations have envisaged.

Keywords Perceptual experience · Perceptual capacities · Perceptual content · Perceptual consciousness · Common factor theories · Disjunctivism

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1 Introduction

According to capacitism, perception—both perceptual content and perceptual consciousness—is constituted by the activity of employing certain capacities; in particular, as championed by Schellenberg (2018), by employing capacities to *single out and discriminate* particular objects, property instances, and events to which one is perceptually related.

> Capacitism "Perception is constitutively a matter of employing perceptual capacities that function to discriminate and single out particulars" (Schellenberg, 2018: 13).

Perceptual capacities are general, or repeatable, in that they can be employed to single out and discriminate any particular so long as it falls under the type of thing that the capacity functions to single out and discriminate instances of—for example, particular instances of redness, or particular box-shaped objects (Schellenberg, 2018: 52). Crucially, such capacities may be employed successfully in veridical perception but also baselessly in hallucination, thereby constituting a level of *content type* insulated from the subject's environment (a 'common factor' present in both good and bad cases) and grounding phenomenal character. Although perceptual capacities are 'general' in this sense of being a repeatable common factor, both they and the perceptual states they constitute function to single out and discriminate particular objects, property instances, and events (not general kinds or universals), and when they succeed in doing so these particulars themselves partly constitute a level of *token* perceptual (singular) content. In short, perceptual capacities can be thought of as perceptual modes of presentation. They are ways of singling out or referring to particulars. What we perceptually experience is perceptually experienced by our having employed a perceptual capacity which has the natural function of singling out and discriminating particulars of that type.

What is the *value* of theorising about perceptual experience in terms of capacities? According to Schellenberg, "[t]he main benefit of invoking capacities" is that they allow us to analyse any perceptual state S on three distinct levels (2018: 33):

> (L1) the *function* of the perceptual capacities whose employment constitutes S;
> (L2) the employments of the perceptual capacities that constitute S *irrespective* of the context in which they are employed;
> (L3) the employments of the perceptual capacities that constitute S *given* the context in which they are employed.

(L1) and (L2) account for the common factor said to be present in veridical perceptual experiences, illusions, and hallucinations with the same phenomenal character: "the same perceptual capacities are employed" (2018: 34). (L3) accounts for the sense in which perceptual experience can afford a form of *contact* between a subject and the particulars in her environment. To *successfully* employ a perceptual capacity with respect to a particular is to perceive it, and when a perceptual capacity is successfully employed, the particulars thereby singled out and discriminated enter the

token content of the perceptual state, making it singular with respect to the relevant particular(s). (While a brain in a vat might employ perceptual capacities, it could not successfully do so (2018: 202).) Additionally, the successful employment of perceptual capacities constitutes 'factive evidence', which is "determined by the perceived particulars such that the evidence is guaranteed to be an accurate guide to the environment" (2018: 179) and is necessary and sufficient for perceptual knowledge (205–6). Finally, (L3) provides an analysis of hallucinations (and illusions) as cases in which a capacity is employed but *fails* to single out and discriminate a particular (2018: 66–7). In such a case, the employment of the capacity does not constitute factive evidence but rather a second-grade form of evidence, 'phenomenal evidence', which can justify general perceptual beliefs but is insufficient for knowledge even when the belief is true (as in Gettier cases) (2018: 189; 207–8).

In sum, if 'the main benefit of invoking capacities' is the three-level analysis (L1)–(L3), the point of the three-level analysis, and indeed the very appeal of capacitism—i.e., the abductive case in its favour—is its potential to offer a *unified* explanation of three major aspects of perception: consciousness, content, and 'epistemic force' (where that term covers perceptual justification and, in felicitous circumstances, perceptual knowledge), using the one notion of a perceptual capacity (hence the title of Schellenberg's (2018) book). In this sense, capacitism is the key to an extremely powerful, unified explanatory framework.

In this paper we argue that if there is to be a future for the basic capacitist thesis—that perceiving is successfully employing perceptual capacities—then it should be prised apart from (at least some components of) the grand unifying framework advertised by Schellenberg. The correct treatment of the case we present in § 3 requires *disunification*. A fully general capacitist theory of perceiving is in tension with using the notion of employing a perceptual capacity to ground all of perceptual content, perceptual consciousness, and perceptual epistemic force in the ways described above (§§ 4–5). The question then becomes: what is the best way to disunify? How much explanatory ground must capacitists concede? Our second conclusion will be that capacitists should embrace a *disjunctivist* account of perceptual capacities (§ 6).

We are importantly not specifically concerned with the claim that perceiving involves 'singling out and discriminating'. The general claim that perceiving a particular is successfully employing a perceptual capacity with respect to it requires some story about what the capacity is a capacity for doing. But it does not really matter for our purposes exactly what story is told.

> What capacities are involved [in seeing an object]? I have emphasized a number of perhaps overlapping capacities: visually singling out the object, visually detecting the object (in the sense of distinguishing between the object's presence and its absence), visually differentiating the object from the background, visually discriminating the object from other objects and visually categorizing the object […]. I believe that these abilities help to single out a natural kind that is the subject of vision science. However, all of them are controversial (Block, ms: 113).

There is a worthwhile programme for capacitists here. Does seeing always involve visually detecting but only sometimes visually discriminating? Or does seeing involve the capacity to visually refer, fulfilled partly on the basis of local stimulus cues (Lande, forthcoming). Perhaps, as Block's (ms.) remark suggests, there is an interrelated family of capacities no one of which has explanatory priority. The core thesis, for our purposes, is just that to perceive a particular is to successfully employ a perceptual capacity with respect to it. We are less concerned about the questions downstream concerning what the capacity is a capacity for doing. For convenience, we will for the most part assume Schellenberg's 'single out and discriminate' story (i.e., capacitism). But the problem we present (§ 3), and the objections we raise for the each of the responses (§§ 4–5), would equally apply to a 'detecting and categorizing' capacitist, a 'singling out' capacitist, or indeed the more liberal family resemblance capacitist just mentioned. What creates conflict is really just the core capacitist thesis in combination with the grand, unifying explanatory framework into which Schellenberg proposes capacities be integrated. Something has got to go.

2 Preliminary obstacles for capacitism

Before presenting our own argument, we briefly review two apparent counterexamples already discussed in the literature, targeting Schellenberg's capacitism in particular, which we think are not insuperable. This will help to illustrate what is special and interesting about our case in § 3.

First, we must introduce the final element needed to unpack capacitism. The phrase 'single out and discriminate' suggests that a conjunction of achievements is involved in perceiving. Concerning the first of these, we are told that it is "a proto-conceptual analogue of referring" (2018: 25). So perceptual 'singling out' is just a perceptual aboutness relation, with the qualification that perceptual capacities need not thereby be thought of as conceptual (2018: 34). If, for example, one is viewing two colour patches, red and blue, in an otherwise dark room, then while perceptually *discriminating* one from the other will be an ingredient in perceiving both the red property instance and the blue property instance, what makes the two perceptual capacities employed in perceiving these two particulars different from one another is which type of particular they *single out* in virtue of their natural function (2018: 36).

Onto the second conjunct: what does discrimination involve? Focusing on vision, Schellenberg tells us that, typically, "there are lots of particulars that are *present in one's visual field* that one does not discriminate and single out and thus does not perceive" (2019a: 749). But while perceiving involves more than mere presence in one's visual field, it does not necessarily require attention (2019a: 740). Schellenberg (2018: 40; 197) sharpens things by saying that perceiving a particular requires that the subject *detect* and *notice* it. Moreover, one must *discriminate it from its surround*, where this requires "registering how it differs in at least one respect from its surround" (2018: 37).

So, to reconstructively summarise what we are told of Schellenberg's perceptual capacities (in the case of vision): visually perceiving a particular α requires employing a certain perceptual capacity so as to at least (i) single out α; (ii) detect and notice

α's presence in one's visual field; (iii) register some difference between α and α's surroundings.

Let us now consider the first sort of case which has been thought to present difficulties for capacitism.

> Chameleon
> S is looking through the window of a skyscraper at a cloudless, bright blue sky. A few moments later, Franco the chameleon, suspended by invisible fibres, is lowered into view. Because his entire body is the exact colour as the sky, that portion of the scene he is occupying appears to S to simply be part of the uniformly blue sky.

According to Siegel (2006), from whom this case is adapted,

> …even though S is looking straight at him, S does not see Franco. Perhaps S sees Franco's disguised surfaces. But S is not in a position to form a *de re* belief about Franco on the strength of her visual experience. So S does not see Franco *in the sense that matters, given the theoretical purpose of the notion of object-seeing* (434).

Others (Cohen, 2019; French, 2020) have wanted to emphasise that this sort of case *is* an instance of seeing a particular object in the ordinary sense, if not in some technical sense which Siegel (2006) has in mind. But, according to Schellenberg,

> …capacitism has it that one does not see the object instantiating this colour […]. After all, having an object in view, is not sufficient for perceiving the object. Not perceiving an object is, however, compatible with perceiving some of its property-instances (2019a: 750).

It is not obvious to us (nor, as we noted, to Cohen (2019) and French (2020)) that capacitism delivers the right result here. But since there is certainly an intuitive sense in which S does not see Franco, this is nothing like a knock-down objection.[1]

A different sort of case posing a threat to capacitism is as follows.

> Wall
> "Touch your nose to a large smooth wall and stare fixedly at the area of the wall in front of you. There is not much doubt about the fact that you see the wall, or at least a portion of it. It is also fairly clear that you do not differentiate it from its immediate surroundings" (Dretske 1969: 26).

[1] What *does* S see in the relevant portion of the scene? Schellenberg suggests S is "seeing the coloured surface that (unbeknownst to [S]) happens to be the skin of the chameleon", and also that S sees some property instance had by the chameleon (2019a: 749). Both claims are in some tension with her observation that S does not discriminate where the chameleon ends and where its surrounding begins. That is, it isn't obvious S 'registers a difference' between the surface (or blueness) of the chameleon and the (blueness of the) sky. But perhaps registering spatial differences (as seems to be Schellenberg's reply in wall, described below) is sufficient. In any case, the capacitist has options here.

Concerning this case, Schellenberg claims that the subject is at least discriminating parts of the wall (e.g., to her left) from other parts of the wall (e.g., to her right). While the different parts might be qualitatively indiscernible, "they occupy different locations within the subject's egocentric frame of reference" (2018: 27).

However, as Cohen (2019: 722–3) and French (2020: 348) have observed, capacitism does not say that to perceive a particular it is sufficient to single out and discriminate *parts* of it. So even if Schellenberg can agree that the subject in wall sees parts of the wall, more must be said in order to secure the claim that they see *the wall*.

Here, too, while it is not clear that the defender of capacitism can deliver the intuitive result, perhaps they can develop a notion of seeing a complex object 'for free' upon seeing sufficiently many of its parts. If you can see the parts of the wall to your left and the parts of the wall to your right, perhaps this suffices for 'derivatively seeing' the wall. Much more would need to be said here, of course. Alternatively, Green (2017) proposes weakening the application of discrimination conditions in the face of such cases: "to visually refer to an object that does *not* occupy one's entire field of vision, it is necessary to circumscribe that object" (29–30, n. 42). Perhaps this is *ad hoc*. But, once again, there do not seem to be insuperable problems here.

A more general line of objection concerns the apparent richness of our perceptual experience: we seem to experience entire scenes in front of us as densely detailed. Yet inattentional blindness and change blindness experiments have been used to argue that we do not. According to Noë & O'Regan (2000), the objects to which we are allegedly 'blind' in the relevant cases are not seen. Cohen (2002) disagrees. He thinks we do (sometimes) see the objects to which we are allegedly 'blind', though he grants that they are not accessible for explicit reporting (2002: 146). The objects to which we are said to be blind have implicit effects (such as priming) on the mind (147), which—he claims—shows that they *are* perceptually represented. Now, capacitism states that we see only what we single out and discriminate. Since subjects do not single out and discriminate the objects to which they are 'blind' in said experiments, it follows that they don't see them—an implication Schellenberg herself seems to accept (2019a: 749). It would therefore seem that capacitism is on Noë & O'Regan's side in this debate, and so is vulnerable to criticisms such as Cohen's (see also Cohen (2019)). While we think this line of attack against capacitism is more serious than the previous two, once again it is not yet decisive (and similar points apply to Sperling's partial report paradigm). Several authors have emphasized that perception is 'person-level' (more on this below). And it is questionable whether the implicit effects Cohen describes count as person-level. Phillips (2018) surveys several kinds of priming effects, ranging from low-level (influencing perception only) to high-level (influencing judgment and action). He argues that, since the effects do not require the representation's availability to central coordinating agency, they do not warrant attributing a representation of the prime to the person (494–9). This issue is far from settled. It is unclear what exactly 'availability to central coordinating agency' means and whether it is indeed a necessary condition for person-level representation. Furthermore, there may be other kinds of priming effects which do imply that the prime is available to central coordinating agency. And there are of course other implicit effects besides priming. Despite all this, the jury is still very much out, and while these points deserve mention, capacitism is hardly a lost cause.

In the next section, we introduce an altogether different case which puts pressure on the core capacitist thesis that to perceive a particular is to successfully employ a perceptual capacity with respect to it. One of the reasons this case is interesting is that none of the responses in chameleon and wall are available. Another reason is that it is clear, we think, that the subject perceives, yet much harder to see how a capacitist could accept this.

3 The problem

> Anscombe's matchboxes
> A stereoscope (a device by which, through the use of mirrors, the two eyes can be independently stimulated) is constructed in such a way that two qualitatively identical, red matchboxes, M and M*, suitably positioned, appear to a subject with binocular vision to be just one matchbox. Elizabeth uses the apparatus and, so it seems to her, has an experience as of one red matchbox several feet ahead which she is viewing with both eyes. She is unaware of the setup and is disposed to attempt perceptual judgments like 'That is a matchbox', etc.

Unlike some thought experiments, Anscombe's matchboxes could quite easily be conducted. Binocular rivalry (Blake, 2001) would be induced if the two matchboxes were sufficiently dissimilar. But, as the case is described, it would in fact appear to the subject as if they were seeing just one matchbox. As Anscombe noted in her original presentation of this sort of case, however, when we ask, 'Which matchbox is Elizabeth seeing?', we ought to say that she sees *both*(1974: 217). Perhaps there is some temptation to claim that it is indeterminate which of M and M* she perceives. But this temptation is lost when one considers that this implies that Elizabeth is (determinately) only seeing one matchbox, it being indeterminate which. Clearly, if she is seeing M she is *also* seeing M*.[2]

For the purposes of this paper, the key observation is that, in Anscombe's matchboxes, Elizabeth perceives M and also perceives M*. Of course, there is something illusory about her experience. But this is not to be explained by saying that she *fails to perceive* M or M*. She in some sense sees M and M* 'as one matchbox'. But she does *see* the two, even if she is misled in some more perplexing way. To put it one way, the error is at the level of what is sometimes called 'seeing-as' rather than seeing *per se* (seeing in the *de re* sense). If capacitism is correct, her success in seeing M and M* must be due to her employing a perceptual capacity in order to single out and discriminate M and a perceptual capacity in order to single out and discriminate M*: "S seeing o entails that S represents o: S cannot see o without employing perceptual capacities by means of which she discriminates and singles out o" (Schellenberg,

[2] It is not obvious what representationalists should say the content of Elizabeth's visual experience is. Perhaps all that is available is general content of the form ⌜∃x Red(x) & Matchbox(x)⌝. Or it might be that the content of her experience is plurally referential (despite this being opaque to her). We set these issues aside here. (See Openshaw & Weksler (2020) for discussion.)

2018: 128). Yet it is difficult to understand how this could be the case. §§ 4–5 will illustrate the tension in much more detail, but we will end this section by offering a preliminary flavour of the problems.

Let us contrast Anscombe's matchboxes with a paradigm case of veridical perception.

> Elijah's matchbox
> Elijah is viewing a red matchbox M' several feet away in normal conditions (without any stereoscope). The stimuli reaching Elijah's eyes are qualitatively identical to the stimuli reaching Elizabeth's eyes via the stereoscope, and his visual experience is subjectively indistinguishable from Elizabeth's.

According to capacitism, Elijah successfully perceives M' by employing a perceptual capacity whose function is to single out and discriminate a matchbox.

It is compatible with the description of this case that Elijah is internally identical to Elizabeth. Let us stipulate that this is so: Elizabeth and Elijah only differ in respect of their environmental contexts. Given Schellenberg's three-level analysis above ((i)–(iii)), Elizabeth is employing *the very same perceptual capacity* Elijah employs. Call this common capacity ***C***.

How can Elizabeth succeed in seeing two matchboxes, M and M* (each one via a different eye), by virtue of employing the very same perceptual capacity that Elijah employs? Capacitism implies that her seeing the two matchboxes consists in her employing ***C*** (via binocular vision), whose function is to single out and discriminate a matchbox. How could employing *that* capacity enable Elizabeth to single out and discriminate *two* matchboxes? Ordinarily, seeing two matchboxes would involve two distinct employments of ***C***.

We envisage two possible explanations. On one hand, perhaps ***C*** functions to single out and discriminate matchboxes in a numerically neutral way: it identifies that there is *at least one* matchbox. Employed in Elizabeth's context, it picks out two; employed in Elijah's context, it picks out one. However, given Schellenberg's theoretical role for perceptual capacities, this entails that the *content type* of each subject's visual experience is numerically neutral: the face value of one's experience is silent (or perhaps indeterminate) with respect to how many matchboxes there are in one's perceived surroundings. On the other hand, perhaps Elizabeth—unlike Elijah—employs ***C****twice*: one employment picking out M, the other M*. However, she and Elijah were supposed to be internal duplicates.

This is only a rough-and-ready flavour of the problems which a capacitist must face when presented with Anscombe's matchboxes. At the broadest level, responses fall into two categories. The first (A–E, below) comprises ways one might *deny* that Elizabeth perceives each of M and M*. We survey these options in § 4. The second (F–G) comprises ways in which the capacitist might explain *how Elizabeth succeeds* in employing a perceptual capacity to single out and discriminate each of M and M*.[3] We survey these in § 5.

[3] Perhaps the capacitist will want to think of perceptual capacities as more 'low-level' than the capacity to single out and discriminate *matchboxes*. We run our discussion at this level for convenience (and we

4 Elizabeth does not perceive M or M*

Before considering individual ways of fleshing out this claim, we do wish to emphasise that this claim is highly counter-intuitive to our ears and to those we have presented this case (including Schellenberg herself, in personal communication). We can ask, of M: Does Elizabeth see *that* matchbox? The straightforward answer appears to be 'Yes', though this may be followed up with a claim about the illusory character of her experience *of M*.

A. Elizabeth perceives only the plurality—M, M*—not each of M and M*.

First, it is important to distinguish this reply from the claim that what Elizabeth perceives is a set or mereological sum with M and M* as members or parts. Those claims involve the idea that Elizabeth sees a single, rather exotic object (and while we see no reason to posit such an object to account for her experience, it is also worth noting that, since it would not be a matchbox, it could not be singled out and discriminated by the relevant capacity anyway). On the reply we have in mind here, Anscombe's matchboxes is a case of *plural seeing*. Elizabeth plurally sees the pair, M, M*, but does not see M and does not see M*.

One might be inclined to think it suffices to perceive a plurality that one perceive the individual things *in* that plurality. When a subject perceives five marbles by employing the capacity to single out and discriminate a marble five times, one might suppose she is thereby perceiving the plurality, without having to employ some *further* capacity. One might even think it is necessary to perceive a plurality that one perceive the individual things in that plurality. However, the capacitist who opts for the present line of reply cannot think this way. For their claim is that Elizabeth does the former without doing the latter. So, if the claim that Elizabeth perceives the pair—M, M*—is not to entail that she also perceives *each* of M and M*, the capacitist must claim that Elizabeth achieves this by employing a perceptual capacity which functions to single out and discriminate *a pair*.

But now consider again the case of Elijah (§ 3). There is no difference between the two cases at the level of which perceptual capacities are employed. The differences there are between the two cases is entirely at the level of the *context* in which the perceptual capacities are employed. To use Schellenberg's three-level characterisation above, the differences between the two cases are entirely at (L3).

Once we reflect on the way in which the capacitist is going to treat these two cases, it becomes clear that they cannot suppose there to be a difference in the perceptual capacities employed by Elizabeth and Elijah. If Elizabeth successfully employs a perceptual capacity whose function is to single out and discriminate a *pair* of matchboxes, then Elijah must also employ that same capacity. Yet this seems utterly *ad hoc*. Worse, the claim that Elijah employs a perceptual capacity whose function is to single out and discriminate a pair of matchboxes is absurd: since he is looking at one matchbox, his employment of the capacity to single out and discriminate a pair of matchboxes fails. And if it fails then Elijah's perceptual experience is not veridical:

note that Schellenberg is also happy to refer to high-level capacities, e.g. to single out and discriminate a dog versus a 'robot dog' (2018: 207–8)). Nothing significant seems to hang on this. The subject in Anscombe's matchboxes does not any more clearly single out and discriminate *box-shaped objects* (etc.).

he is in some sense experiencing two matchboxes instead of one. But *of course* Elijah experiences no illusion or hallucination! His situation is the perfectly ordinary one of seeing one matchbox in normal viewing conditions by means of binocular vision.

B. Elizabeth does not perceive M or M*, but a*subpersonal*system perceives them.

The capacitist might claim that we should distinguish between 'left-eye seeing' and 'right-eye seeing', which are subpersonal, and binocular seeing, which is person-level. Left-eye seeing is the successful employment of a subpersonal capacity to single out and discriminate a particular through the left eye. Right-eye seeing is the successful employment of a subpersonal capacity to single out and discriminate a particular through the right eye. Binocular seeing is the successful employment of a person-level capacity to single out and discriminate a particular which is partly based on the two subpersonal capacities in question. Given this, the capacitist could suggest that in Anscombe's matchboxes two subpersonal capacities are successfully employed, but the person-level capacity is baselessly employed. Consequently, Elizabeth does not see M and does not see M*. However, since there is subpersonal seeing of M and of M*, this explains why we are tempted to think that Elizabeth sees M and M*.

On this proposal, Elijah's matchbox involves the successful employment of the same two subpersonal capacities, but in addition, there is a successful employment of the person-level binocular capacity that is based on them. In this way, the proposal preserves Schellenberg's first and second levels of analysis, (L1) and (L2), since Elizabeth and Elijah are identical with respect to the capacities employed but simply differ with respect to whether the employment is successful at the personal level.[4]

However, Schellenberg attributes employment of perceptual capacities—and hence perception—to *subjects*, not to subpersonal mechanisms. On her view, subpersonal mechanisms only constitute an 'informational base' for the employment of a capacity:

> If a subject S is employing a perceptual capacity C_α, then there is an informational base of employing C_α that is constituted by the subpersonal psychological mechanism (information processing, computations, and other subpersonal functional states, events, and processes) of S (Schellenberg 2018: 32).

There are two issues here: the first is whether a *capacity* could be subpersonal, the other is whether a *perceptual* capacity could be subpersonal. Regarding the first issue, it seems that acknowledging the existence of subpersonal capacities should not in principle be a problem for Schellenberg's approach (let alone to the capacitist

[4] This reply suggests that 'right-eye seeing' capacities are person-level when the left eye is closed (and only right-eye monocular vision processes are operating) but subpersonal when the left eye is open (and binocular vision processes are operating). This result might seem awkward. However, to take one account of what it is for a representation to be person-level—on which the representation must be available to 'central coordinating agency'—whether the content of 'right-eye seeing' is fully available to central coordinating agency *does* depend on whether the left eye is open. For, when the left eye is open, what is available to central coordinating agency is the content of 'cyclopean' seeing, and some of things seen via the right eye alone are not seen via the 'cyclopean' eye (see the discussion of Reply G in § 5). From this perspective, the result is not awkward so much as an upshot of how which processes (and which perceptual capacities they partly constitute) are person-level can depend on processing elsewhere.

approach in general). One could call them 'schmapacities', or 'sub-capacities', which are just like capacities except for their being subpersonal. The second issue is more significant. It is generally agreed that perceiving is a person-level phenomenon: it is attributable to individuals as opposed to subsystems of individuals (Burge, 2010; Phillips, 2016, 2018). It does not make sense to say that a subsystem sees a matchbox in the same way that it does not make sense to say that a subsystem is afraid of the dark, or that a subsystem wants to renovate the house. In following suit, Schellenberg is committed to holding that singling out and discriminating a worldly particular (and the capacity to do so) is not something we can attribute to a subsystem.

Still, a proponent of the present proposal could in principle claim that whether successfully employed subpersonal capacities constitute (subpersonal) perceiving doesn't ultimately matter. What matters is that we (as theoreticians) are aware of the *successful subpersonal processing of the information* coming from M through the left eye and of the successful subpersonal processing of the information coming from M* through the right eye. Our awareness of this successful processing might tempt us to think that Elizabeth is seeing both M and M* although in fact she is seeing neither.

In response to this worry, we develop an argument in support of the claim that Elizabeth is seeing M and M*. In this way, we need not rely on the direct *intuition* that she is.

Elizabeth is in a position to *know*, on the basis of her experience, that there is a red matchbox in front of her (i.e., $\exists x \exists y$ ((Red(x) & Matchbox(x)) & (y=me) & (InFrontOf(x, y)))). This is, or could at least be stipulated as part of the case's description to be, an instance of *perceptual* knowledge. After all, it would be hard to explain as a form of inferential knowledge, given that the would-be premises of such reasoning (i.e., that *that* is a matchbox) are either false or not truth-evaluable. [5] Moreover, it is an instance of perceptual *knowledge*: her belief that there is a red matchbox in front of her is not true by luck. Her belief is safe (Sosa, 1999): at the closest possible worlds where she has that belief, formed via that process (however this is individuated), it is true. The claim that Elizabeth perceptually knows that there is a matchbox in front of her is therefore quite plausible. Of course, she is not in a position to know (on the basis of perception) *how many* red matchboxes are in front of her. Nor is she intuitively in a position to know (on the basis of perception) that *that* matchbox is red (so to speak). But she *can* come to know (on the basis of perception) that there is a matchbox in front of her.

Intuitively, perceptually knowing *that there are Fs in one's environment* entails that one *perceives Fs* in one's environment. Perceptual knowledge is (at least in part) what perceptual experience *is for*. Schellenberg agrees. More specifically, she holds that successfully employing person-level perceptual capacities to discriminate and single out—i.e., person-level perceiving—constitutes "factive evidence" (2018:

[5] Someone who holds that perceptual experience can only represent low-level properties (or property-instances) such as shape, distance, and colour, may wish to claim that 'perceptually' knowing that there is a matchbox in front of one is strictly speaking inferential. As we noted in footnote 3, however, high-level properties are inessential to Anscombe's matchboxes. It is possible to replace matchboxes with box-shaped objects or even with 'three rectangular surfaces orthogonal to each other' without loss. What matters is just that Elizabeth in some sense sees two objects as if they were one, no matter whether we say these are matchboxes, boxes, or three rectangular surfaces orthogonal to each other.

205). And factive evidence is both necessary and sufficient for perceptual knowledge (2018: 205–6). Thus, since Elizabeth has (or is in a position to have) perceptual knowledge that there is a red matchbox in front of her, it follows from Schellenberg's approach that Elizabeth is seeing a red matchbox. Since (as mentioned in § 3) it is implausible that she is seeing only one of the matchboxes, she must be seeing both of them. We can therefore conclude that we have strong reason to hold that Elizabeth is seeing M and seeing M*, independently of the direct intuition that she is.

Yet perhaps a proponent of capacitism who disagrees with Schellenberg's account of evidence might respond by biting the bullet, holding that perceptual knowledge that there are *F*s in one's environment does not entail perceiving *F*s in one's environment. Such a philosopher might grant that this entailment typically holds but claim that in special circumstances it does not. Specifically, she might propose that in Elizabeth's case, subpersonal seeing, or subpersonal information processing (or employment of subpersonal capacities) that does not count as subpersonal seeing, enables perceptual knowledge in the absence of person-level seeing.

Even if this bullet-biting move could be rendered plausible, it is incompatible with capacitists' ambition to unify three important aspects of perception—perceptual consciousness, perceptual intentionality, and perceptual epistemic force—in terms of person-level capacities. This unification implies that perceptual epistemic force is, necessarily, due to the employment of person-level perceptual capacities. As Schellenberg puts it:

> According to capacitism, evidence and allied notions such as justification and knowledge are to be understood in terms of the mental capacities employed […]. The notion of a capacity is understood to be explanatorily basic. It is because *a given subject* is employing a mental capacity with a certain nature that her mental states have epistemic force (2018: 187; emphasis added).

No proponent of a view with these unifying ambitions could allow any component in addition to person-level perceptual capacities to provide perceptual epistemic force. Consequently, subpersonal seeing, subpersonal information processing, or employment of subpersonal capacities, cannot provide perceptual epistemic force in the absence of person-level seeing. In other words, if these subpersonal activities provide perceptual epistemic force, they must do so only by contributing to person-level seeing.

C. Elizabeth at best perceives*property instances*, but not the object(s) instantiating them.

We mention this strategy since it mirrors at least part of Schellenberg's (2019a) reply to chameleon. However, the move gets no traction here. In chameleon, the contours of Franco are invisible but the property instances he instantiates—namely, the instances of blueness—are visible. Consequently, it seems plausible (though see footnote 1, above) that Franco is not seen whereas the instances of blueness *are* seen. In Anscombe's matchboxes, by contrast, not only are the two matchboxes merged in Elizabeth's experience, the relevant *property instances*—for example, the instances of redness—are merged as well. If there is some reason why merging prevents object-seeing, it will surely also prevent particular-seeing in general, including

property-instance-seeing. The capacitist cannot retreat to the claim that the subject sees particular property instances without seeing the associated object.

D. Elizabeth at best perceives*properties*(not particular property instances or objects).

According to this line of reply, Elizabeth cannot 'see double'. That is, she cannot see two box-shapedness property instances, or two matchboxes. However—continues the reply—because there is only *one box-shapedness property* (universal) instantiated by both M and M*, Elizabeth *can* see *it*. That Elizabeth sees this universal is supposed to explain our temptation to think, incorrectly, that she sees particular objects instantiating it (or particular property instances).

We note in passing that this reply is not available to Schellenberg herself, who remarks:

> A central theme of the book is that […] every case of perception involves perceiving and representing at least one particular, where that particular could be an object, event, or a property-instance in the environment (2018: 715).

Like Burge (2010: 380), Schellenberg claims that the idea that we are perceptually aware of universals (at least in cases of hallucination) is "deeply problematic", since "it is not clear what it would be to be sensorily aware of properties, given that properties are not spatio-temporally extended, not spatio-temporally located, and not causally efficacious" (Schellenberg, 2019b: 125). (See also Papineau (2014) for a similar discussion.) Still, might there be wiggle room here for a capacitist who is willing to countenance property-seeing in perceptual experience?[6] It would be surprising if—abstracting away from Schellenberg's denial of property seeing— capacitism committed one to such a view. And explaining what 'singling out and discriminating' a universal has in common with singling out and discriminating a particular will be a significant undertaking.

There is a more serious problem, though. Consider the following variant of Anscombe's matchboxes: through her left eye, Elizabeth is presented with M, but, through her right eye, Elizabeth is presented with prism-shaped objects, or holograms, at varying distances, which would (and do) collectively appear from Elizabeth's perspective to be a single matchbox-shaped object, indistinguishable from M.[7] We can suppose that, in this somewhat recherché case, Elizabeth's perceptual experience is subjectively indistinguishable from her experience in the original Anscombe's matchboxes case. Setting aside whether Elizabeth can be said to see any of those objects visible through her right eye, we are inclined to say that she sees *the matchbox*, M, just as we are inclined to say that Elizabeth sees M in the original case. Yet, in this modified case, there are few if any universals shared between the respective objects to which she is related. For instance, the universal *box-shapedness* is not instantiated by any

[6] One need not think that the universals themselves are causally efficacious. The claim could instead be that the particulars which *are* causally related to Elizabeth's visual system are not seen despite such relations nevertheless being sufficient for the perception of certain universals instantiated by M and M*.

[7] This case is adapted from one considered by Green (2017: 30), in which a subject monocularly views a nearby half-disc and a slightly larger whole disc directly behind it, without any stereoscopic apparatus, so that there appears to be a single bounded disc in her environment.

object to which she is related through her right eye. Therefore, Elizabeth does not see this universal. Since Elizabeth does not see universals such as *box-shapedness*, it is not promising to explain away our temptation think that Elizabeth sees matchbox M in this case by appealing to an alleged successful perception of universals.

From this point, there are two ways to further develop the 'universals-based' line of reply. On the first way, the intuition that Elizabeth sees M in the modified case should be *trusted*. It is only the intuition that Elizabeth sees M in the original Anscombe's matchboxes case that should not be trusted. For that case is explained by Elizabeth's perception of universals. On the second way, both intuitions should not be trusted. The first way is implausible. Consider: in the present case, Elizabeth's matchbox experience stems from two different sources, the matchbox M through her left eye, and a series of prisms (or holograms) P, through her right eye. But it seems to her as if her experience stems from one matchbox, through both eyes. Further, Elizabeth cannot discriminate one source from the other (i.e., M from P). In Anscombe's matchboxes, the situation is quite similar: there are two different sources for the experience (M and M*), it seems to Elizabeth as if there is a single source for her experience, and she cannot discriminate one source (M) from the other (M*). Thus, plausibly, the intuition that Elizabeth sees M in the present case and the intuition that she sees M in Anscombe's matchboxes stand and fall together. It does not seem likely that one of them is trustworthy whereas the other isn't. Let's turn to the second way. According to it, the intuitions that Elizabeth sees M should not be trusted in either case. However, whereas in the original case, the intuition is explained away by appealing to perception of universals visible to each eye, in the modified case the intuition must be explained away differently. Some kind of 'seeing' of something matchbox-like must occur, and this should explain why we are mistakenly tempted to think that Elizabeth sees M in the present case. But what could this 'seeing of something matchbox-like' be? It could not be plurality-seeing, subpersonal seeing, or seeing of property instances, for reasons analogous to those discussed above. It also cannot be 'non-representational causal sensitivity' for reasons analogous to those discussed below. It is difficult to think of any other candidate (indeed, this is why the appeal to universals was made in the first place). We conclude that the universals-based line of reply is a dead end.

E. Elizabeth does not perceive any objects, property instances, *or* properties.

Schellenberg does stress that one will not be capable of employing one's perceptual capacities to single out and discriminate particulars—and thus will not be capable of perceiving—if one's environment is too dark or noisy, or if one's sensory apparatus is not functioning correctly, or if one is not causally related to the particular in such a way as to gain information about the object via one's senses (e.g., if one is too close or too far away from the particular to properly make it out or discriminate it from its surround) (2018: 31–2; 41). While these remarks are plausible in general, it does not seem plausible to claim that Elizabeth does not perceive anything matchbox-like in Anscombe's matchboxes. According to this line of reply, Elizabeth does not perceive the matchboxes, nor does she perceive property instances (or properties) they instantiate. She at best perceives other things which may be present in her visual field, such as the table on which the matchboxes rest. In other words, Elizabeth employs a perceptual capacity whose function is to single out and discriminate a matchbox,

alongside perceptual capacities whose function is to single out and discriminate various property instances. And this is why her experience has the phenomenal character of an experience as of a red matchbox. But she *fails* to single out and discriminate by means of any such employments. According to Schellenberg's three level analysis (§ 1), this implies Elizabeth is *hallucinating* a red matchbox.

Are there ways of finessing this claim? Perhaps what we have been calling perception (in Anscombe's matchboxes) is mere causal sensitivity. It is not *representation per se*: it is not properly objective and does not have accuracy conditions. Rather like how the initial inputs and early processing of sensory inputs are pre-representational states which "correlate with, are caused by, and function to correlate with features of the environment […] [but] do not have accuracy conditions" (Burge, 2014: 573), Elizabeth does not perceive M and M* but her experience is, in some second-class sense, causally sensitive to M and M*.

However, this reply faces a problem analogous to that discussed in (B) above, namely that Elizabeth is in a position to have perceptual knowledge that there is a matchbox in front of her. According to the reply in (B), Elizabeth doesn't see M or M*, but subpersonal systems within her do 'see' M and M*. On the present reply, neither Elizabeth nor subpersonal systems see M or M*, but her experience is causally sensitive to M and to M* in some non-representational sense. The first problem for both replies is that they imply, counterintuitively, that Elizabeth has perceptual knowledge that there are matchboxes in her environment without perceiving matchboxes in her environment. Proponents of both replies may bite the bullet and accept this counterintuitive result, but this—as we have argued in (B)—leads to a different problem. In the context of the subpersonal seeing proposal, the second problem is that any perceptual epistemic force given by subpersonal perceptual processes (i.e., the processes which, by hypothesis, allow Elizabeth to come to know that there is a matchbox in front of her) is incompatible with the unificatory strategy offered in abductive support of capacitism. It is a core ambition of capacitism, as a view which seeks to give a unifying explanation of perceptual content, perceptual consciousness, and perceptual justification and knowledge, that all perceptual epistemic force is explained by features of person-level perceptual capacities. Analogously, the present reply, according to which Elizabeth does not see any matchbox or any relevant property instances or properties associated with any matchbox, implies that *non-representational causal sensitivity* provides perceptual epistemic force. And this is equally incompatible with the claim that only person-level perceptual capacities can provide perceptual epistemic force. An advocate of the general thesis, capacitism, might vacate the epistemic dimension of these unifying explanatory ambitions. While we will be arguing that capacitists must *disunify* in some respect, we will be arguing in the concluding section (§ 6) that to disavow the epistemic dimension is to overreact to Anscombe's matchboxes. We recommend a less costly strategy which better preserves the spirit of capacitism.

5 Elizabeth *succeeds* in employing a perceptual capacity to single out each of M and M*

In this section, we will again see Elijah's matchbox pose difficulties, this time for moves which look tempting as ways of clarifying how Elizabeth might be said to *succeed* in employing a perceptual capacity to single out each of M and M*.

F. Elizabeth employs one capacity (once) which alone 'multiply' singles out M and M*.

If this strategy is not to recapitulate the idea considered in (A), above, the claim must be that Elizabeth employs one perceptual capacity—the same as is employed by Elijah—and successfully singles out and discriminates *two* particulars, M and M*, with this one employment. Reply (A) suggested that there was one *plural reference* relation obtaining between Elizabeth's employment of the relevant perceptual capacity and the pair—M, M*. On the present reply, there are *two* reference (or 'singling out') relations, one obtaining between Elizabeth's employment of the relevant perceptual capacity and M, another between that same capacity employment and M*. So this reply can be thought of as involving what we might call *multiple* reference (Openshaw, 2021), rather than plural reference.[8]

There is certainly something appealing about this proposal. From the inside, Elizabeth is doing what Elijah is doing. The only difference is that Elizabeth's environment is peculiarly misleading. Nevertheless, she still *sees* the matchboxes, even if she takes them to be one (in some sense). So, in Anscombe's matchboxes, Elizabeth's employment of the very same capacity employed by Elijah in Elijah's matchbox ends up singling out and discriminating two things.

Of course, it is somewhat plausible that Elizabeth is not in a position to have perceptual demonstrative singular thoughts about M and M* (her judgment 'That is red' fails to refer).[9] But it is natural to think that perceiving an object is not quite so demanding as being in a position to have perceptual demonstrative singular thoughts about it. So the absence of an ability to think perceptual demonstrative singular thoughts about M does not entail that Elizabeth does not *perceive* M, or, for that matter, single out and discriminate M.

If we are to suppose, then, that Elizabeth's employment of the very same capacity employed by Elijah ends up singling out and discriminating two matchboxes, it seems that we should suppose that the perceptual capacity commonly employed here is *neutral* on *how many* things of type *F* are singled out and discriminated by the employment of a perceptual capacity which functions to single out and discriminate particulars of type *F*. Depending on one's environment, one and the same perceptual capacity could be employed to single out and discriminate one, two, or indeed many particulars of the relevant type.

[8] It is possible to think of this as involving plural reference so long as one has a distributive view of plural reference in mind, rather than the collective view described in § 4 under (A). On distributive views, plural reference involves reference to each individual in the plurality separately. On collective views, it involves only reference to the individuals jointly, absent reference to any of those individuals separately (see Oliver & Smiley (2008; 2016) for discussion). Embracing the collective view would seem to force one down reply (A), whereas we are here considering the reply that Elizabeth singles out *each* of M and M*.

[9] See Openshaw & Weksler (2020) and Peacocke (1981) for discussion.

An initial concern with this general line of reply has to do with the idea that employments of capacities constitute singular modes of presentation. Schellenberg explicitly endorses this in a view she calls 'Fregean particularism'.

> …employing perceptual capacities constitutes singular modes of presentation, namely modes of presentation that are constituted by the perceptual capacities employed and the particulars thereby singled out (Schellenberg, 2018: 101).
> Just as there is a many-one relation between senses and references, there is a many-one relation between perceptual capacities and particulars (2018: 52).

These remarks reflect the standard conception of a mode of presentation as *determining* the referent, so that referents "correspond one–many with senses" (Evans, 1982: 21, n. 24). There is, therefore, some tension between the apparently Fregean character of employments of perceptual capacities and the idea that one employment of a capacity may serve to single out and discriminate *multiple* things—to 'multiply refer', or indeed 'multiply single out'.

However, there are more serious problems for the present reply. Consider a final case.

> Eli's hallucination
> Eli is experiencing a visual hallucination as of a red matchbox a few feet ahead of him. There is no such matchbox present. His experience is subjectively indistinguishable from the perceptual experience had by Elijah (and, therefore, by Elizabeth).

It is said to be part of the attraction of the three-level framework for analysing perceptual states that it can consider cases of hallucination like Eli's as having the same content *type* as Elijah (and, therefore, Elizabeth). And, remember, the content type of a perceptual experience is entirely determined by the perceptual capacities employed (Schellenberg, 2018: 59–60; 114ff). This analysis of 'content type' is one of the key explanatory benefits of capacitism.

Yet, for this very reason, there is a substantial consideration against the claim that the perceptual capacity commonly employed by Elizabeth and Elijah is *neutral* on how many things of such-and-such a type would be singled out and discriminated by an employment of that perceptual capacity. For if it were neutral, then since perceptual capacities determine content type, the content type must itself be neutral as to how many things of such-and-such a type one perceives. But this is entirely wrong: the face value content of Eli's experience has it that there is one matchbox several feet ahead of him, not that there might be *any number* of matchboxes several feet ahead of him. This is why Eli is, plausibly, justified in believing that he is seeing one red matchbox in front of him, but is *not*, in the same, non-inferential way, justified in believing that he is seeing *at least one* matchbox. And while Elizabeth's attempt to have singular thoughts of the form *That matchbox is red* are presumably unsuccessful, those attempts are at least justified in the same sense as Eli's. The same cannot be said for any perceptual-demonstrative thought she tries to think (perhaps

even successfully) of the form *Those matchboxes are red* (assuming she has not been informed of the setup).

In sum, then, the defender of capacitism ought not to claim that the perceptual capacity commonly employed by Elijah, Eli, and Elizabeth is neutral on how many things of such-and-such a type it is the function of the capacity to single out and discriminate. It is an important consequence of the epistemic benefits of perceptual experience that Elijah can know, simply by taking his perceptual experience at face value—and not by making any sort of inference—that there is just *one* matchbox he is seeing.

G. Elizabeth employs one capacity*twice*, successfully singling out M and M*, respectively.

A final way to escape some of the problems discussed under the previous sub-section is to *maintain* Fregean particularism by suggesting that, in Anscombe's matchboxes, Elizabeth employs her perceptual capacity to single out and discriminate a matchbox *twice*. There would then be *two* token perceptual modes of presentation of the same type, one of which would single out and discriminate M, the other of which would single out and discriminate M*.

Unfortunately, the first burden faced by this line of reply is that it seems to again introduce an *ad hoc* disanalogy between Elizabeth and Elijah in their respective cases. Recall that, for the defender of capacitism, the primary benefit of theorising about perception in terms of perceptual capacities is supposedly that it allows us to mark out three levels of analysis (§ 1). (L1) and (L2) are meant to be equivalent in subjects whose perceptual experience has the same phenomenal character. As they are described, the only respects in which Anscombe's matchboxes and Elijah's matchbox differ pertain to (L3), the environmental context in which the subjects find themselves. While this level affects the token singular contents of these subjects' perceptual experience, it is not supposed to affect *which* nor—presumably—*how many* employments of perceptual capacities there are.

A further problem concerns Eli's hallucination. How many employments of the perceptual capacity to single out and discriminate a matchbox are there in Eli's hallucination? Capacitism was supposed to give us the resources to understand how there could be a level of content which was a 'common factor' present in both Elijah's matchbox and Eli's hallucination. This common content, in virtue of which their perceptual experience has the same phenomenal character, is said to be constituted by their employing the same perceptual capacity (Schellenberg, 2018: 153). Where Elijah does so successfully, Eli does so baselessly. But if Eli is identical to Elijah with respect to the number of employments of perceptual capacities (namely one), why not Elizabeth? And, if indeed she is, she therefore lacks the multiple employments of the relevant perceptual capacity which the present reply advocates her as having.

An apparent way out is to *index* employments of (person-level) perceptual capacities to eyes, and say that all three protagonists employ a capacity to single out and discriminate a matchbox *twice*, once through each eye. In this way, there is no *ad hoc* difference between the protagonists, and there is no issue concerning how many employments are there in Eli's case. All of the protagonists employ the same capacity twice, once through each eye, and the difference between them concerns whether and which objects are thereby singled out and discriminated. Eli employs the capac-

ity twice, once through each eye, but baselessly. Elijah employs the capacity twice, once through each eye, but each employment singles out and discriminates the same matchbox. Elizabeth employs the capacity twice, once through each eye, and each employment singles out and discriminates a different matchbox (M and M*). So, Eli sees no matchbox, Elijah sees one matchbox (as one), and Elizabeth sees two matchboxes (as one, i.e. she undergoes an illusion concerning the number of matchboxes she sees).

A problem with this proposal is that our visual perceptual experience (when both eyes are open) is 'cyclopean', meaning that the information coming from the two eyes is fused in a specific way, resulting in a 'cyclopean' phenomenal character. Put a pencil on the desk close to you (10 cm) and pointing away from you. Look at it once while closing the right eye and once while closing the left eye. You'll notice that the pencil's apparent orientation relative to you is a bit different in each case. Furthermore, parts of the pencil that are invisible through one eye may be visible through the other, and vice versa. Now open both of your eyes and look at the pencil. You'll experience some sort of a 'compromise' between the experience you had with each eye. In ideal cases (where binocular vision works optimally), the orientation of the pencil should be a sort of 'average' between the two orientations.[10] Similarly for the visible and invisible parts of the pencil. This means that, when both eyes are open, and binocular vision works optimally, singling out and discriminating orientation and pencil-parts through one eye sometimes does not determine the phenomenal character of the experience. For example, in certain conditions, the subject discriminates and singles out orientation O and pencil part P, through the left eye, but the phenomenal character of experience does not involve O and P. This is a problem since according to capacitism, if a subject employs a (person-level) capacity to single out and discriminate O and P then the subject should have an experience as of O and as of P, but in this case she doesn't have such an experience. The upshot is that a capacitist cannot index employment of capacities to individual eyes, when both eyes are open.

6 Conclusion: the disunified future of perceptual capacitism

We have explored and raised concerns for all of the natural ways in which an advocate of capacitism who adopts Schellenberg's unified explanatory framework might respond to Anscombe's matchboxes, which looks to be a counterexample to their core thesis that perceiving a particular is constitutively a matter of employing a perceptual capacity that functions to single out and discriminate particulars of that type. § 5 argued that it is unclear how a capacitist could *accommodate* the claim that Elizabeth perceives matchbox M, or matchbox M*. § 4 argued, on the other hand, that it is unclear how a capacitist could give a convincing account of what Elizabeth *is* perceiving, if not M, M*, and their associated property instances.

Let us now cast an eye towards positive ways in which the core capacitist thesis may be developed in light of our discussion. How could a defender of the idea that to

[10] This is not true when one eye is dominant. In that case the argument below can simply be applied to the non-dominant eye.

perceive a particular is to successfully employ perceptual capacities with respect to it accommodate the claim that Elizabeth sees M and M*? How could it be maintained that there is some perceptual capacity which Elizabeth employs so as to succeed in perceptually referring to M and to M*?

It is important to remember at this point that the original case presented in favour of capacitism rested on answering such questions in such a way as to underpin a grand, unified explanatory framework (§ 1). In other words, the basic notion of employing a perceptual capacity must culminate in a unified analysis of three major aspects of perception: consciousness, content, and epistemic force. Our paper's first conclusion is that the right treatment of Anscombe's matchboxes demands *disunification*: it is not possible to provide a satisfying response to that case while maintaining as ambitious an analysis as that which Schellenberg (2018, *inter alia*) takes to be available. In other words, any satisfying response to the case we have presented here must reduce the explanatory scope of perceptual capacities to some degree or other. The question now becomes: what is the best way to disunify perceptual capacitism? How much explanatory ground must the perceptual capacitist concede? Our second conclusion, for which we will now argue, is that capacitists should embrace a *disjunctivist* account of perceptual capacities.

A different way, discussed in Reply (B), is to disunify by embracing the idea that subpersonal perceptual capacities carry perceptual epistemic force which in no way surfaces at the personal levels of perceptual consciousness and intentionality. As we emphasised in § 4 (and in discussing Reply (E), too), it is highly counterintuitive to deny that being in a position to know via perception alone that there are *F*s requires *perceiving F*s. To accept such counterintuitive implications looks like *ad hoc* overreaction to our case. As Millar has put it:

> an ability to tell by looking [that] […] an F is present is relational in this sense: it is constitutive of its exercise that it puts one in cognitive contact with Fs and with the fact that they are Fs (Millar, 2008: 335).

This provides reason for exploring other disunification strategies which do not have counterintuitive implications. And, indeed, Millar's (2008) discussion of disjunctivist perceptual-recognitional abilities provides some degree of illumination here (though we do not hereby agree with Millar's discussion as a whole).

We think the preferred strategy going forward must be to individuate the framework's explanatory tools in a more externalist manner. We can explain Elizabeth's perceptual success in terms of perceptual capacities so long as we are not constrained by having to use that same explanation to account for apparent dimensions of phenomenal or content-type *sameness* (*inter alia)* in our three protagonists. Consider, for example, the following kind of story (told in terms of capacities to perceptually refer rather than 'single out and discriminate' for neutrality concerning what perceptual capacities are capacities for doing (§ 1) and whether Elizabeth is capable of 'discriminating' M and M* in Schellenberg's (2018) sense).

Environment-dependence view: In their everyday lives, Elijah and Elizabeth share the same suite of capacities to perceptually refer. But, *given the environmental differences in the cases we described*, they *employ* distinct capacities. Whereas Elijah

employs the capacity to perceptually refer to a single matchbox through binocular vision, Elizabeth employs the capacity to perceptually refer to two matchboxes. To draw an analogy, Henry doesn't lose the capacity to tell by looking whether there is a barn in front of him as soon as he enters Fake Barn County (Goldman, 1976). But, though he retains the capacity, he is unable to *employ* it in Fake Barn County. Our story need not be that his capacity is an 'internal' one to form justified beliefs about the presence of barns which can be employed whichever county he is in. We can say that the possibility of employing his capacity to tell by looking whether there is a barn in front of him is "indexed to suitable environments" (Millar, 2008: 335). Likewise, we *should* say that Elizabeth's environment allows her to employ the capacity to perceptually refer to two matchboxes. It does not, despite what she is disposed to believe, allow her to employ the capacity to perceptually refer to one matchbox. There is a difference between Elijah and Elizabeth, and it is a difference at the level of which capacities they are in a position to employ.

It might help to draw an analogy with other, more mundane applications of the concept of a capacity. Take my capacity to strike a golf ball (in the usual way). It would be unnatural to analyse this as an environment-independent capacity to move my body in such-and-such a way, so that it may be employed whether I am hitting thin air when I practice my swing in the office or hitting two balls by accident at the driving range. What I have a capacity to do is to execute a particular action in a way which is equally dependent on my *environment* being appropriately arranged. To accidentally strike two balls is either to fail to execute the capacity or, perhaps, to execute a distinct capacity I didn't know I had. There is no useful notion of a skill or capacity to be picked out by 'factoring through' to something I could employ all the same no matter how my environment happened to be arranged.[11] And perceiving is no different. Which perceptual capacities I employ is not totally indifferent to the demands made by my environment in order that its myriad elements be perceived. We should think of the ability to strike a golf ball, or the capacity to perceive two matchboxes à la Anscombe's matchboxes, as an environment-dependent capacity. In this light, it is perfectly natural to conclude that, due to her peculiar environment, Elizabeth's success in seeing M and M* is attributable to the exercise of a perceptual capacity distinct from Elijah's. It is a capacity we seldom have need for, but, as Anscombe's matchboxes shows, it is nevertheless one that all binocular perceivers have.

Like any disunification strategy, this proposal must concede some explanatory power to the version of capacitism advertised by Schellenberg (2018) (and which we have argued here is a chimera). Since this proposal rejects the need for Schellenberg's second level of analysis, in which capacities determine an explanatorily significant level of 'content type' regardless of the context in which they are employed, there is no need to distinguish between a level of 'content type' and 'token content' for the purposes of explaining perceptual phenomena. The concession that comes along with this, we take it, is that employments of perceptual capacities no longer fully explain what Schellenberg calls 'phenomenal evidence'. On her view, (L2), the level of capacities employed irrespective of the subject's environment, suffices for a kind of perceptual justification. In particular, it suffices for the justification of certain per-

[11] It has, of course, been argued that such capacities make for poor explanations (Williamson, 2000).

ceptually based general (i.e., not singular) judgments (Schellenberg, 2018: 189). And there is one particular such judgment which we may wish to say Elizabeth, Elijah, and Eli are all equally justified in forming, namely that there is *exactly one* matchbox in front of them. According to the strategy just proposed, we cannot explain this common fact about justification, or phenomenal evidence, in terms of their employing one and the same (numerically committal) capacity to single out and discriminate *one matchbox*. While the environment-dependence view can explain how Elizabeth is in a position to know via perception alone that there is at least one matchbox in front of her, for all that has been said it does not *on its own* provide the resources to explain how she is (if indeed she is) justified in judging that there is exactly one matchbox there.[12]

Nevertheless, other stories are available. The capacitist who adopts the environment-dependence view need not deny that Elizabeth, Elijah, and Eli are all justified in forming the perceptual judgment that there is exactly one matchbox in front of them. They will just deny that the explanation of this common fact concerning justification derives from their employing the same internally-determined perceptual capacity. They might instead point to the identical phenomenal character of the subjects' experiences, perhaps along with the claim that in typical (or perhaps normal) circumstances, subjects of experiences with that phenomenal character are perceptually related to exactly one matchbox.[13]

Summing up, the general moral, according to the environment-dependence view, is that capacitists cannot appeal to one and the same internally-determined perceptual capacity to both explain Elizabeth's perceptual success *and* the purported sameness in phenomenal character and phenomenal evidence across Elijah, Elizabeth, and Eli. If we wish to explain perceptual success in terms of X (e.g., employing perceptual capacities), we cannot also ask X (e.g., those same perceptual capacities) to determine a level of 'content type' which is preserved across our three protagonists. For, as soon as we do that, we lose our grip on how Elizabeth could be successful in perceptually referring to both M and M*. What the environment-dependence view denies is precisely that there is a common internal state across the cases involving Elijah, Elizabeth, and Eli which suffices to determine what the subject is perceptually representing. In short, the future we envisage for capacitism remains a form of representationalism about perceptual experience, but it is disjunctivist (i.e., non-common-factor-ist) at least at the level of perceptual content.

According to Schellenberg, "capacitism is a common factor view of perception" and "is at its core non-disjunctivist" (2020: 717). We disagree.

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[12] One strongly externalist option may be to deny that Elijah, Elizabeth and Eli *are* all equally justified in believing on the basis of their perceptual experience that there is exactly one matchbox in front of them (Williamson, forthcoming).

[13] Disjunctivists have ways of accounting for phenomenal similarity across cases of perception, hallucination and illusion (e.g., Martin (2004); (2006)) which may be used to account for the phenomenal similarity among our three protagonists, given the environment-dependence view.

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