

ORIGINAL ARTICLE

The Defective Armchair: A Reply to Tye

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Michael Tye's response to my "Grain" (Block 2012) and "Windows" (Block 2013) raises general metaphilosophical issues about the value of intuitions and judgments about one's perceptions and the relations of those intuitions and judgments to empirical research, as well as specific philosophical issues about the relation between seeing, attention and de re thought. I will argue that Tye's appeal to what is (§. 2) "intuitively obvious, once we reflect upon these cases" ("intuition") is problematic. I will also argue that first person judgments can be problematic when used on their own as Tye does but can be valuable when integrated with empirical results.

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1 Seeing, de re thought potential and attention

Tye argues from the premises that (1) conscious seeing requires de re thought potential and (2) de re thought requires attention to the conclusion that conscious seeing requires attention potential.¹

Let's start with the first premise that conscious seeing requires de re thought potential. As I emphasized, there must always be a singular element in perception (Burge 2009, 2010) and that might seem to show that perception requires de re thought potential. However, jumping spiders (genus *Portia*) can identify and stalk their prey (Burge 2010, pp. 514–517) and these abilities involve a perceptual analog of a linguistic demonstrative or indexical that serves to track the prey and as a context-bound locus of "binding" together properties such as size and shape that allow for identification of the prey. Jumping spiders can see but there is room for doubt about whether jumping spiders have any capacity for thought or judgment, including de re thought or judgment. Of course they probably lack consciousness as well, but it would be an adventurous empirical claim that the phylogenetic cut in nature between creatures that have conscious vision and creatures that have only unconscious vision is the same as the cut between creatures that are and are not capable of de re thought. Further, it would not help Tye to appeal to obscure counterfactuals as to what would happen if creatures that can consciously see but not think had cognitive capacities added to their brains (Kripke 1982). Maybe their heads would overheat.

In sum, Tye's claim that conscious seeing requires de re thought potential takes on empirical commitments about the range of creatures that have de re thought potential and so cannot be established by what is "intuitively obvious."

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I will turn now to the second claim, that *de re* thought requires attention. You can see how problematic this claim is from Figure 1.

Fixate on (point your eyes at) the little square in the middle. Attend to the left patch without moving your eyes. This may take bit of practice but if you do it, you can still see the right patch. Now that you can see the right patch without attending to it, ask yourself of that patch “What is that?” Tye claims “If you ask yourself “What’s that?” with respect to an object in your field of view, the object must either have caught your attention or you must be intentionally attending to it (perhaps in an attempt to discover its identity).” Figure 1 suggests otherwise. Tye may say that although one is focally attending to the left patch, there must still be some attention on the right patch. But this is an empirical issue and not something to be settled by Tye’s method. For a summary of evidence that there can be conscious vision with little or no attention, see van Boxtel et al. 2010.

2 Unconscious seeing

Perhaps Tye will say he has no conscious awareness of the patch on the right when he is focally attending to the one on the left in Figure 1. That goes counter to my perceptual judgments, but we don’t have to appeal just to them: subjects can reliably make conscious comparative judgments about the two patches when attending to one of them. (This holds for both voluntary and involuntary attention; Carrasco 2011.) In fact, they can do this even if the patches are separated from the fixation point by 9° of visual angle instead of 4° as in Figure 1. Tye might think that these judgments are based on unconscious perception. Chica et al. 2010 did an experiment similar to Carrasco’s in which subjects had to report the tilt of a patch that could be cued or anticued. When subjects reported not seeing the target, they were at chance on reporting the tilt. And when subjects reported seeing the

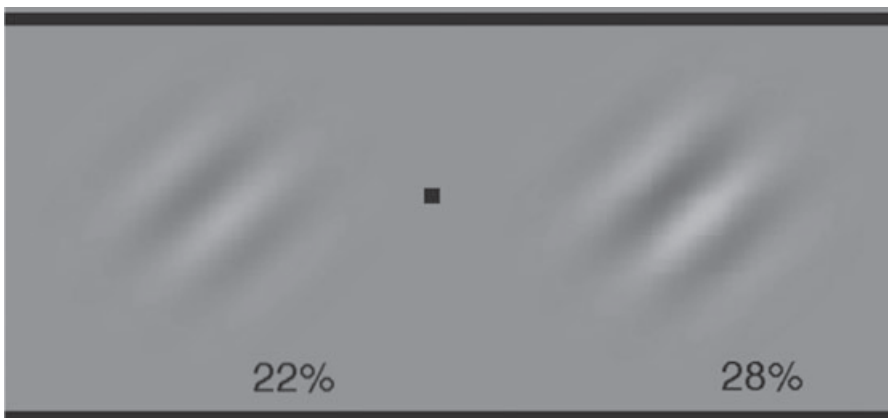


Figure 1: Illustration of our ability to ask “What is that?” of items one is not focally attending to. Point your eyes at (fixate) the little square in the middle. Attend to the left patch. You can still see the right patch and can ask yourself “What is that?” with respect to it. Thanks to Marisa Carrasco for this diagram.

tilt, they were substantially above chance. This is not the profile one sees in blindsight or in unconscious priming where subjects report not seeing the stimulus at all. Of course that evidence in the end appeals to what subjects say about their experience, but we are on firmer ground with a network of mutually supporting perceptual judgments embedded in an explanatory framework than with the one-off perceptual judgments Tye uses. In any case, this issue is not one to be settled by what seems obvious.

A key premise in my reasoning is that seeing is a natural kind—including both conscious and unconscious seeing. Tye claims (footnote 2) that unconscious seeing is mere unconscious visual representation rather than genuine seeing. As I mentioned, there is plenty of evidence for conscious and unconscious seeing as a substantive natural kind. In addition to the case made by Burge, I described some phenomena in which a single percept combines both conscious and unconscious seeing. (See especially the captions for Figures 8 and 9 in *Grain*.)

The point in the dialectic in which this issue surfaces is in my case for the presence of a singular element in the conscious percept of the identity-crowded item. I described work by Freeman and Pelli that showed the presence of the singular element in crowded vision, even if in part in unconscious seeing. I argued that the conscious percept could single an item out even if that singling out was in part unconscious. This is the most controversial step in my argument but is not raised explicitly by Tye.

3 Tye's rendition of my argument

My argument for object-seeing without object attention in identity-crowding was based on the evidence for the singular element in crowded perception that I just described and on certain conscious abilities exemplified in identity-crowding. In “*Grain*” (Block 2012), I appealed mainly to four conscious abilities, detection (in the sense of distinguishing consciously between presence and absence), differentiation from the background, discrimination from other objects and identification (knowing what it is). In “*Windows*” (Block 2013) I emphasized in addition the integration of those abilities with the singular element in a percept. A major part of my argument involved backing up the claim that these abilities are at least partly perceptual and not entirely inferential.

Tye's rendition of my argument in Section 1 of his paper is a caricature. Here is his summary: “Since you can identify the middle ‘T’ in the bottom row, you do see it; but you can't attend to it.” Tye leaves out three of the four abilities, their integration with the singular element and most importantly, he leaves out my arguments that the abilities are perceptual rather than inferential.

Bits of my actual argument do surface scattered through Tye's discussion, often distorted. For example, in explaining differentiation of the object from the background, I said the subject sees the white space, not that the subject sees the white spaces as Tye seems to allege. And he says (footnote 5) “Nothing but confusion comes from ignoring the fact that ‘see,’ like ‘weigh,’ has a collective or nondistributive character,” apparently charging that my argument is based on or profits from this confusion. I observed, similarly, in *Grain* (p. 173) that seeing the stars in a distant flag collectively does not entail seeing

them individually (referencing Dretske and Tye on this point) but crucially I added that one can see a group pattern, *and in addition* one can see the individuals composing the group.

Tye's main objection is that identification of the crowded item is entirely inferential, not at all perceptual. He notes that in the Petrov and Popple (2007) experiment, the fact that people are much better at identifying $///$ than $\\ /$ does not provide evidence for perception over inference. Yes, but I made no such claim. The role of that fact in my argument was to back up the claim that people could identify the items in identity-crowding. I said (Grain, p. 174) "The fact that identity-crowding allows identification is obvious from Figures 3–5. It was also shown experimentally using triples of grids each of which could be tilted either slightly clockwise or slightly counterclockwise (Petrov and Popple 2007)."

More significantly, Tye ignores the actual argument against his inferential claim that I based on Petrov and Popple, namely that (Grain, p. 175) "The fine structure of the results of this experiment suggests that subjects' success in identity-crowding is at least partly perceptual and not just a cognitive inference from the look of uniformity and identification of the flankers. There are considerable asymmetries between left and right tilts that only can be explained perceptually." For example, (Window, p. 31) Subjects were much better at $\\ /$ than its mirror image, $/ \ /$. The idea was that asymmetries suggested an at least partly perceptual origin.

Window was largely devoted to another detailed argument—ignored by Tye—for a partly perceptual as opposed to an exclusively inferential account of the abilities. To very briefly summarize: certain texture analysis and synthesis algorithms have been shown to transform pictures so that they consciously look the same to subjects in peripheral vision—they are "metamers" of the visual system. When those algorithms are applied to certain very regular patterns in peripheral vision (such as three identical letters) they yield the original regular pattern, providing some justification for the conclusion that in the special case of such regular patterns, foveal and peripheral perception are similar.

The methodological interest of this technique derives from the fact that we are poor at distinguishing introspectively between perception and perceptual judgment (Siegel 2010). It may appear to us visually that one billiard ball caused another to move, but how sure are we that we perceived causation as opposed to imposing a perceptual judgment of causation on a perception of colors, shapes, textures, forms and movement? There are well known issues in distinguishing perception from perceptual judgments in same/different tasks but also, crucially, methods for addressing those difficulties (Anton-Erxleben et al. 2010). Thus we have a chance to leverage the results on metameric perception in application to other areas of perception where the distinction between perception and perceptual judgment is more problematic.

Tye says of the Figure 1 from his reply, "If you start by fixating on the three 'T's and then switch your fixation point to the plus sign on the left, you'll find that the middle 'T' phenomenally disappears. You no longer consciously see it. The effect is quite dramatic." Although he does not acknowledge it, he is proposing a *method* of observation; it could be called the "foveal-preview-then-eye-movement" method of looking at the crowded item. Judgments based on this method are worth nothing prior to investigation of a number

of question-marks. Visually guided saccades (ballistic eye movements) are known to orient attention to the saccade target. In this case attention would be drawn to the plus sign, removing attention from the three ‘T’s, making them harder to see. More generally, there are many complex effects of eye movements on perception, and in addition both adaptation and priming are possible. Tye’s foveal-preview-then-eye-movement method of looking at crowded items illustrates that we need to know some of the relevant science in order to even know *what first person judgments are relevant*. Moving to the main point, one common failing in the philosophical literature on perception is the supposition that one’s own experience on seeing a stimulus is what everyone experiences. Crowded perception varies widely from person to person as illustrated in Figure 2. Fixating on the plus, some subjects can read only ‘row’ whereas at the opposite extreme some subjects also can read ‘uncrowded.’

For the purposes of making an identity-crowded stimulus where few will experience disappearance of the crowded item, one has to make it just peripheral enough to be crowded. The “critical spacing” for crowding is defined as the spacing between crowded items that allows 80% identification. This is the length of the “integration windows” in Figure 1 of Windows. It is about half the eccentricity, that is, half the distance between the plus sign and the midpoint of the crowded item. The best way to produce identity-crowded stimuli in which the crowded items are maximally visible would be to measure the subject’s individual critical spacing and use slightly less than half of that as the gap between the crowded items. But the displays in published papers usually use much smaller critical spacings. In my Figure 2 of Window I used 1/12th (that is, the item to item spacing is 1/12th of the distance between the crowded object and the plus sign) and in the comparable Figure 3 of Grain I used 1/11th. Perhaps unwisely, I emphasized crowding, sacrificing acuity and visibility. In Figure 3, I have used slightly over one fourth which should be crowded for almost all observers without much of a sense of disappearance of the middle bar.

In appealing to the readers’ introspective judgment about Figure 3, my aim is not to use that judgment as an argument for seeing the middle bar but to combat Tye’s allegation

+

xuncrowdedx

Figure 2: Illustration of normal variation in sizes of crowding windows. Fixating at the plus sign, try to read the letters immediately below. Some observers can only read ‘row,’ others can also see ‘crow,’ others can also read ‘crowd,’ and others can also see ‘uncrowded.’ “Reprinted with permission from Pelli et al. 2007: p. 6”. Permission to use this figure has been granted by the Association for Research in Vision and Ophthalmology.



Figure 3: The distance between the midpoints of the bars is slightly over one fourth the distance between the plus and the midpoint of the middle (crowded) bar. This ratio should be comfortably crowded for most observers—you should not be able to move your attention from bar to bar—but hopefully it will not look to many people as if there is no middle bar.

that middle item “disappears.” As I said, my method is to combine introspections from clearer cases with experimental results to infer the system behind these judgments about conscious perception.

4 Conclusion

There are fundamental methodological disagreements between me and Tye that apply widely outside philosophy of perception and philosophy of mind. Although some of the matters I have discussed are narrowly focused on issues that will be of most interest to philosophers of perception, I believe they provide a test case for general metaphilosophical principles.

Acknowledgement

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Note

- 1 He seems to assume that if *de re* thought requires attention, then *de re* thought potential requires attention potential.

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