The role of perceivers in representing the sensory world

It is commonly taken for fact that perceptual objects are material objects in the world which our perceptual systems represent through sensory experiences. This fact serves as the basis for perceptual science, is essential for drawing epistemic inferences from sensory experience, and is of great importance for most philosophical theories of perception. Yet, the possibility of hallucination, illusion, and misrepresentation challenge our ability to universally infer from perceptual experience to existing, material perceptual objects. The regularity with which the perceptual system discloses sensory facts about the world is part and parcel of its routine operation, and it is by virtue of this regularity that we commonly infer from sensory experience to the materiality of perceptual objects.

While regularity and materiality are both typically true in object perception, their ubiquity contributes to the further assumption that these conditions are necessary for perceptual objects. To the contrary, the target of this paper undermines this assumption. We argue that while object perception always involves contributions from the material world and its objects, it also involves contributions (in varying degrees) from the perceivers themselves in representing those objects.

It is important to distinguish material objects from what we are calling perceptual objects. Perceptual objects are material objects that have been perceived and should be construed as aspects of our perceptual representation of the material world. The same entities without a perceiver are simply material objects lacking subjective perceptual features. They may become perceptual objects once they turn into the targets of our sense modalities. This emphasizes the relationship between perceivers and physical phenomena in addition to the role that perceivers play in representing material objects in perceptual experience. Perceptual objects involve tracking physical states of external objects, and to some degree they depend upon the particular perceptual capacities of individual perceivers. While tracking material objects in the world, perceptual objects may not share 1:1 identity with them inasmuch as the perceptual system may process objects in subject-dependent ways. These differences are distinguishable at the level of representational content. Thus, by 'the representation of perceptual objects' we mean that perceptual objects are the intermediary representations of a perceiver's processing of the sensory world. This also means that different perceivers with differently adapted perceptual systems may relate to the sensory world differently and the nature of these relationships can affect how perceptual objects are represented. When subjectsperceive objects, the material world is not changed. Rather, what the material world contributes may differ on the basis of the perceptual capacities of each perceiver levied in perceiving the objects. So how material objects are perceived may depend in subject-dependent ways upon how perceivers are able to individuate specific sensory entities.

Here, we argue that the [subject-dependency of object perception can be taxonomized along three grades. Each grade refers to a deeper and more pervasive influence of perceivers on resulting object representations. The first grade, "weak subject-dependency," concerns attentional changes to perceptual content like, for instance, when a perceiver is turning her head, plugging her ears, or her attention is primed for a particular cue. The second grade, "moderate subject-dependency," refers to changes in the contingent features of perceptual objects due to action-orientation, location, and agential concerns. For instance, being to the right or left of an object will cause the object to have a corresponding locative feature. Finally, the third grade, "strong subject-dependency," concerns generating perceptual objects whose existence depends upon their perceivers' sensory contributions. Accordingly, different

perceivers with differently adapted or developed perceptual systems may process and represent the same sensory information differently from one another. To exemplify this nonstandard, subject-dependent form of object perception, we offer empirical evidence from the future-directed anticipation of perceptual experts, and from the feature binding of synesthetes. Strongly subject-dependent perceptual objects are accurate representations of the sensory world that track material objects, but are distinct from typical perceptual objects in that they depend in noncontingent, necessary ways on the mind of the perceiver. Although they represent material objects, they also represent necessary relations shared between those objects and their perceivers which renders them often idiosyncratic.

What we learn from these analyses is that perception is plastic in that its dynamic operations are responsive to subject-dependent pressures like the adaptive effects of perceptual learning, attentional interests, and non-pathological differences in the regular functioning of an individual's perceptual system. We conclude that despite the non-regular nature of strongly subject-dependent perceptual objects, such objects are no less capable of substantiating accurate experiences of the material world. There are as many ways to perceive the world as there are individuals who develop and live with adapted perceptual systems. The non-regularity of represented perceptual objects, whether generated from the weak grade of subject-dependency, moderate, or strongone, should neither unsettle our epistemology nor undermine our confidence in perceptual science. Rather, such perceptual objects may be embraced by contemporary theories regarding the content of perception to better accommodate the diversity of perceptual experience.

Keywords: Subject-Dependent; Object Perception; Perceptual Expertise; Anticipation; Synesthesia

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