Against Character Constraints

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Abstract: This paper defends the following principle: For any visually perceptible set of objects and any visual phenomenal character, there could be a veridical perception of exactly those objects with that character. This principle is rejected by almost all contemporary theories of perception, yet rarely addressed directly. Many have taken the apparent inconceivability of a certain sort of "shape inversion" — as compared to the more plausible, frequently discussed "color inversion" — as evidence that the spatial characters of our perceptions are uniquely suited to and/or revelatory of the structure of their objects, such that alleged perceptions of those objects that differed radically in spatial character could not be veridical. I argue that these conclusions are unjustified: I claim that the difficulty involved in constructing coherent "shape inversion" scenarios is attributable to the complex relations among visual and tactile shape experiences, as opposed to relations between shape experiences and worldly shape properties.

1. Introduction

I currently see a silver laptop, a red stapler, a blue mug, and some other desk items. There is something it is like for me to see these objects that differs from what it is like for me to see the leafy trees outside. Could some creature have an experience with the same phenomenal character as this, yet see the trees? Most would accept such a possibility: one can see what are in fact leafy green trees, even though these objects appear like a silver laptop, red stapler, and blue mug. However, it will be insisted that such an experience would necessarily be a case of dramatic misperception. After all, the trees are not metallic, red, rectangular, etc. Perhaps this reasoning is sound with respect to humans. However, this paper argues that such a perception, if had by the right perceiver, need not be falsidical. For some possible creature, a perception with the same phenomenal character (henceforth "character") as my current experience *would* reflect what the trees are really like and would not represent the trees as being any way they are not. Put more generally:

> *Full Permissibility (FP):* For any visually perceptible set of objects (in a certain spatial arrangement with a given set of properties[1]) and any visual phenomenal character, there could be a veridical perception of exactly those objects with that character.

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[1] That is, if we take a set of objects that can be seen together, and we take a visual phenomenal character, there could be some creature who veridically perceives those objects veridically via that character, even holding fixed the objects' spatial relations and properties (beyond those of the sort, "is seen by S.") 'Objects' can be understood inclusively, such that parts of objects count as objects.

FP is restricted to vision purely for ease of exposition. Although FP is rejected by most contemporary

theories of perception,[2] Papineau is a notable potential sympathizer. He argues that "conscious sensory

properties . . . represent worldly facts . . . only in virtue of further contingent facts about the way they are

embedded in the wider world" (2021, 5). If characters are only related to their objects contingently, then

perhaps an experience phenomenally like my experience of my desk could veridically represent leafy

trees.[3] Another instance of permissibility-friendly reasoning is found in Chalmers' view of virtual reality,

according to which someone with an experience phenomenally like mine could be veridically perceiving

something radically different than what I perceive, such as a virtual desk instead of a physical desk —

although, perhaps not leafy trees instead of a physical desk, as FP requires (2022; 2016).

This paper argues against perceiver-independent constraints on the character of veridical

perception. Philosophers of perception more frequently discuss the determination (or lack thereof) of

character by perceptual content. You might think that the question answered by FP — which characters

are suitable for veridical representation of which bits of the world? — only arises if character depends

on (or is determined by) the subject rather than the perceived world itself. If there is nothing more to

character than how the world is perceived to be or which scene a perceiver is related to (as some Naïve

Realists hold), perhaps you can reject FP on this basis alone, without any principle for which characters

are suitable for veridical perceptions of which objects. In section 2, I argue that no notion of dependence

can play such a role. In some sense, everyone must accept that character depends on both perceived

objects and something further (plausibly, perspective). Everyone accepts some cases in which objects

are held fixed, yet characters of veridical perceptions diverge. Once some such divergence is accepted,

and an accompanying explanation is provided, the question arises as to the extent of such divergence —

a question that is independent of Naïve Realist and Intentionalist theses about character and content. In

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[2] Examples of views that reject FP include Pautz 2021; Levine 2018; Mendelovici 2013; Thompson 2010; Siegel 2006; Chalmers 2004.

[3] Notably, while not taking a stand on FP, Papineau *does* place constraints on which characters can represent which properties: "Square and circular shapes in the world themselves have a structure that an adequate system of symbols for representing them needs to match." (2021, 111)

sections 4 and 5, I argue that the only justifiable principle rejects all character constraints on veridical perception.

2. Character Determination and Divergence

Theories of perception are frequently sorted to the extent that they attribute the "determination" of the character of veridical perception to features of the mind-independent perceived world as opposed to features of the perceiving subject. For instance, Logue categorizes theorists on a spectrum ranging from those claiming that the character of veridical experience is "*entirely* determined by the features of the subject" to those who claim that the character of veridical experience is "entirely determined by the properties one perceives of the *mind-independent objects* one perceives" (2012, 214, 216).[4] Yet, focusing on the determination of character can be misleading, given the indisputable role of both subject and object in determining character. Take my veridical perception of my stapler. The stapler causes changes to me via my eyes, causing me to enter a certain brain state. In this state, I am aware of my experience's character — that is, of what it is like to see the stapler. Every believer in the perception of mind-independent things will accept ways that the objects of my perception could have differed and ways that the subject could have differed such that the experience would have differed character-wise. For instance, if the stapler were blue instead of red, curved instead of boxy, further to the left, etc., the character would have differed. My visual tracking of these aspects of the stapler is part of why I count as seeing the stapler veridically. For another perceiver of this stapler in another setting, other properties might be relevant. Yet, any perceiver who genuinely sees the stapler as it is must — at a bare minimum — track *some* aspect of the stapler. Someone whose visual experiences were not correlated with or counterfactually sensitive to any aspect of the objects affecting their eyes would not count as veridically seeing — or, perhaps, seeing at all. In this sense, everyone posits some dependence of character on perceived objects. Conversely, everyone accepts the empirical fact that if the subject of this experience had differed in various ways — such as by having different brain structures, perceptual apparatuses, location, etc. — the character of the experience would be different. Yet, *there is* substantial disagreement

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[4] Pautz's characterization of Naïve Realism versus Representationalism echoes this framing (2023).

about how much, and in which ways, a given experience could have differed without impacting

veridicality. More generally, there is disagreement over the extent to which fixing the features of

perceived objects constrains character, provided the scope is limited to veridical perception. I argue

against any such constraints.

The polar opposite of FP denies *any* variation between characters of veridical perceptions of a

given set of objects. It is difficult to imagine anyone endorsing such a principle, given that the same

objects apparently appear differently from different spatial perspectives. For instance, imagine S1 and

S2 looking at the same three sides of the same white cube floating in a black void, with S1 being closer to

the cube than S2. Despite seeing the same object, their experiences differ in character because their

perspectives differ. Here is a minimal principle for character divergence:

> *Minimal Permissibility:* For some visually perceptible sets of objects, veridical visual perceptions
> of exactly those objects can differ in phenomenal character.

Accepting veridical perception of mind-independent worldly objects while denying *Minimal*

Permissibility requires accepting that each set of objects can only be veridically seen from a singular

point in space. Given the arbitrariness of any such spatial perspective being the "one true perspective"

on any given objects, such a position is tough to defend. Everyone who posits veridical perception of

mind-independent objects will accept that some instances of perception fit this "character divergence"

template:

> 1) At time t, S1 and S2 both veridically perceive only W.
> 2) S1's perceptual experience of W at t differs in character from S2's perceptual experience of W
> at t.

In such cases, one cannot appeal to a difference in the world to explain the divergence given that both

perceptions feature the same objects. Thus, the notion that *what the perceived bits of the world are like*

can entirely explain the character of veridical perception is untenable. Further explanation is needed.

Here are two available explanation types for character divergence:

> *Anti-Intentionalist Explanations:* Rejecting the Intentionalism thesis that character supervenes

on content, one may claim that properties appear differently character-wise from different perspectives.

For instance, S1 and S2 veridically perceive the same properties of the cube, such as the squareness of

its surfaces, yet those properties appear differently from different perspectives. S1's and S2's characters

differ shape-wise because squares look different from different points in space. Whether or not any

subject S veridically perceives a surface's shape depends not only on the character of S's experience and

the surface's shape but also on S's perspective. To know whether S veridically perceives the shape, we

must know not merely whether the character is appropriate for seeing squareness but whether it is

appropriate for seeing squareness from S's perspective relative to the surface in question. The same can

be said for size and location.

   Intentionalism Compatible Explanations: Alternatively, one could claim that owing to their

different perspectives on W, the subjects perceive different properties of W, leading to different

characters. (I employ 'perspective' liberally such that any aspect of S1 that allows S1 to perceive features

of W that other perceivers of W do not perceive may be considered a feature of S1's "perspective" on W.)

If veridical perceptions feature the same objects and properties, then they are identical in character

(because content entirely determines character in veridical perception). However, S1 and S2 do not

represent the same properties. Neither misperceives the cube; rather they each perceive a different,

incomplete set of the cube's properties.

   To fill out this explanation, one might appeal to perceiver-relative properties. Although S1 and

S2 perceive all of the same inherent, subject-independent properties of the cube, perhaps they also

perceive properties of their own relations to the cube. For instance, it might perceptually seem to S1 that

S1 is located slightly above and to the left of the cube. It doesn't perceptually seem to S2 that S1 is

related to the cube in any particular way. Such relational properties constitute a distinction in the

content of S1's and S2's perceptions, explaining the difference in their character. Campbell suggests this

sort of explanation by describing perceiver-relative properties as part of the "constitution" of character:

"[T]he phenomenal character of your experience, as you look around the room, is constituted by the

actual layout of the room itself: which particular objects are there, their intrinsic properties, such as

colour and shape, and how they are arranged in relation to one another and *to you*" (2002, 116,

emphasis added). Another Intentionalism compatible explanation appeals to properties that are not

subject-dependent yet are perspective-centric in that a subject perceives them because of properties specific to that subject. Perhaps S1, but not S2, perceives the way in which the cube is spatially arranged relative to the point in space that S1 (or S1's eyes) occupies. Explanations involving such perspective-centric properties are standard for cross-modal cases of character divergence. If S1 sees W while S2 feels W, most would agree that S1's character differs from S2's character in so far as S1 is aware of W's visual properties while S2 is aware of W's tactile properties.

It may be helpful to see how a non-Intentionalist and an Intentionalist offer parallel explanations for a given instance of character divergence. Peacocke, a non-Intentionalist, offers a case of a subject looking at two identically sized trees, one closer and one further away (1983). Just as the properties of the cube seem insufficient for determining the character of S1's and S2's experiences, the properties of Peacocke's trees seem insufficient for determining the character of his subject's experience. Although the trees are identical in size and although the subject seems to be seeing veridically, "there is a sense in which the nearer tree occupies more of [the subject's] visual field than the more distant tree" (1983, 12). Peacocke frames this puzzle as "the problem of the additional characterization", arguing that characterizations of the content of veridical experiences are insufficient to explain the character, and thus additional characterizations, beyond the perceptual content, are required (1983, 12). Byrne, an Intentionalist, offers an account of this case that appeals to perceiver-relative properties to incorporate the asymmetry between the trees directly into the content description: "It visually appears to the subject that he's facing two similar-sized trees, one further away than the other" (2001, 222). Both accept that features of the subject's perspective are required to fully account for the character; the disagreement lies only in whether these perspectival features belong to the content.

This section has shown that everyone who accepts *Minimal Permissibility* — which is tough to deny — must offer some explanation of character divergence. This work is neutral between available explanations. Whichever explanation you prefer, I aim to convince you that you ought to endorse analogous explanations of analogous, yet more radical instances of character divergence among

creatures reliably tracking the same bits of the world. I have emphasized that everyone must accept that a single set of objects can be veridically perceived via perceptions that differ in character, even within perceptual modalities. Facts about what the perceived bit of the world is like cannot entirely determine the character of veridical perception; features of the perceiving subject must play some role — whether because properties appear differently via different perspectives and/or because different properties are perceptible from different perspectives.

3. Perspectival Facts

Most would accept a version of FP that omitted 'veridical'. That is, most accept that any character is consistent with the *perception* of any objects, so long as misperception counts as perception. For instance, perhaps I could see the objects on my desk via pink-elephant-esque character. I would simply fail to see these objects as they truly are. For simplicity's sake, in what follows, I will take for granted this weaker claim about the relationship between perception and character.[5]

Stipulate that S perceives objects W via character C. As argued above, knowing all there is to know about W and C is (at least sometimes) insufficient for determining whether S veridically perceives W. Everyone who accepts *Minimal Permissibility* will accept that there could be more than one character that could be the character of a veridical perception of W. For instance, in our initial example of S1 and S2 seeing the same white cube, knowing all there is to know about the cube and the character in question is insufficient for knowing whether a perception is veridical. If you are omniscient about the cube, and you know that some perception of the cube has C1, you still cannot know whether or not the perception is veridical without learning more about the subject. If the subject is S1, but not if the subject is S2, then the perception is veridical. Everyone must accept that some additional characterization, beyond all facts about the objects and character, may be required to ascertain the veridicality of the perception.

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[5] You can avoid this assumption — rejected by some, such as Dretske 1969 and Montague 2013 — by replacing cases of "seeing" with "quasi-seeing", such that a quasi-seer of object o visually tracks properties of o on the basis of direct visual input from o. My arguments that some subject S veridically rather than falsidically sees o can also generate the conclusion that S *sees* rather than merely quasi-sees o.

Different explanations attribute different roles to these additional facts. According to anti-Intentionalist explanations, we need to learn facts about S's perspective on W because W seems different character-wise from different perspectives. According to Intentionalism-compatible explanations, we need to learn facts about S's perspective on W because different properties of W are perceptible from different perspectives. Any of these explanations of character divergence could in principle be used to claim that any perceiver of W veridically perceives W. Whichever aspects of S make it the case that S experiences C when perceiving W might occupy the role of S's perspectival facts. Via anti-Intentionalist explanations, we might say that from this particular perspective of S, W-like things bring about C-ish character when veridically perceived, just as we say that from the perspective of someone closer to one of two identical trees, one tree occupies more of the visual field. Via Intentionalism-compatible explanations, we might similarly identify the properties of W that are relevant to S's perspective, describe these properties as part of the content of S's experience, and claim that C is the one and only character of veridical perceptions of such content.

Of course, endorsing a certain explanation of character divergence in some cases in no way entails endorsing this explanation for all potential cases of character divergence. However, nothing about the structure or content of these explanations entails that they ought to be offered to justify some particular level of character divergence. One could endorse any of these explanations (and thus endorse or reject Intentionalism) alongside any principle from *Minimal Permissibility* to FP. Thus, to accept *Minimal Permissibility* and reject FP, one needs some further principle for deciding how much character divergence is possible and which perspectives on the world can facilitate veridical perceptions. If one denies that a perception is veridical, this denial thus cannot be justified merely by pointing out that the perception differs character-wise from a selected veridical perception (i.e. "W is like *this*, so W can't be like *that*."). Since everyone accepts such divergence in some cases, character divergence alone cannot show that both perceptions are not veridical. Nor can Intentionalism provide independent reason to reject a perception, given available Intentionalism-compatible explanations. One might assert that which characters are suitable for veridical perceptions of which objects is simply an evident, brute fact. Or,

perhaps some kind of suitability criterion might be offered to systematically identify suitable characters for given objects. The rest of this paper argues that no restrictive suitability principle is justified.

4. Character Divergence Among Simple Perceivers

Imagine two species of simple, mostly immobile perceivers: Normals and Weirds. Their only perceptual capacities are functionally equivalent visual systems that track the same few properties of a few sorts of objects in certain circumstances. Perhaps these objects/properties signal when they should open their mouths to eat passing prey. Both perceivers have white′ visual experiences when seeing nothing. (I follow the convention of using the "prime" (′), introduced by Peacocke 1983 to indicate qualities of perceptual experience while remaining neutral on the relationship that experience has to the outer world. For instance, if an experience is red′ or triangular′, it is phenomenally like the paradigmatic human visual experience of redness or triangularity.)[6] One important object for these creatures is a black right triangular prism, with triangular bases with 3-foot edges. When the triangular base of this block is 10 feet away from our perceivers' eyes, centered and perpendicular to their gaze, with the bottom edge parallel to the ground, the creatures see the block and visually track any width changes. If we replaced this special "triangular block" with something visually indistinguishable, such that our creatures' eyes received the same input they receive from the block, the creatures would have the same visual experience as when seeing the block. Similar stories can be told about other objects, such as black cylinders, etc. Normals see these blocks via the characters of a normal human's perception of the relevant block floating in a white abyss. Weirds see the triangular block via monochromatic gray′ character, like a human's character when seeing a gray abyss. As the triangle's width approaches 0, the Weird's character approaches white′. As the triangle's width increases, the Weird's experience approaches black′, until, once the width of the triangle is sufficiently long that Normals could not see the triangle's edges, the Weird's experience is black′. Weirds see the other notable objects similarly through monochromatic′ experiences, such as by tracking the small to large cylinders via blues′.

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[6] Some might reject that experiences of different objects can have the exact same character. Still, it is undeniable that the characters of different experiences can be indiscernibly similar. We can say that such experiences share character C, even if finer distinctions are available.

First, to accept that Normals veridically see these blocks, consider fictional seers with full-body eye-like surfaces, in contrast with our two eyes, who can see clearly in any level of light and differentiate colors (or color-like properties) across a vast range of the electromagnetic spectrum, in contrast to our small window of visibility. Just as we recognize the limitations and arbitrariness of Normals' visual system, these "superseers" will recognize the limitations and arbitrariness of human visual systems. It is difficult to imagine a non-arbitrary, non-anthropocentric standard for veridical perception that would rule human vision sufficient and Normals' vision insufficient.

As Normals and Weirds are visually sensitive to the same objects and properties, their visual systems provide equivalent functional benefits. You might think that, *at least*, only Normals can see the angles and sides of the block. Yet, Weirds are equally visually sensitive to such parts insofar as any difference in size or angle would prevent the Weirds, along with the Normals, from seeing the block — even if the Weirds fail to see the sides and angles *as* sides and angles. For any useful action that a Normal can take on the basis of their perception (i.e. opening mouth to eat, tilting towards light, etc.) a Weird can take the corresponding action in response to their corresponding perception. One might presume that Normal perception is superior given how it might more readily evolve into a more useful system, such as by allowing for perception of different sorts of triangles or integrating tactile perception. Yet, so too could the Weird system evolve. (Section 5 considers more sophisticated creatures.)

Normals and Weirds respectively develop languages that purportedly refer to perceived properties, such that if they lived together, they'd develop a smooth Normal-Weird apparent translation scheme. Still, many will claim that while Weirds' perception is useful, Weirds simply do not see the blocks as they really are. For instance, their perceptions of triangular blocks are all light grayish', while the blocks are black. These experiences are shapeless', while the blocks are triangular. Perhaps, Normals veridically perceive the block as triangular and black, while Weirds do not veridically represent any property of the block. Given the equivalence in functionality, this claim will, in some form, deny the suitability of the character of Weird perceptions. A theorist with this view who adopts anti-Intentionalist explanations of other instances of character divergence might argue that grayness' and blueness', for

example, are unsuitable ways for triangularity and circularity to appear. A theorist who adopts Intentionalism-compatible explanations elsewhere would need to argue that there are no properties of the block that Weirds veridically see via grayness′ and blueness′. While Normals veridically see triangularity via the triangularity′ of their perceptions, Weirds do not veridically see any property via their grayness′. Yet, this theorist must embrace a fairly permissive view of perceptible properties, given that they agree that S1 perceives properties of that white cube in the black void that S2 does not perceive, such as the angle at which the cube is tilted with respect to S1 or S1's location. In the Weirds' case, there *is* some identifiable property g (perhaps triangularity, triangularity of a certain kind of block, some other coextensive Weird property) such that if W has g and a Weird sees W, their experience will be grayish′. Why is this insufficient for veridically perceiving g? Is g not the sort of property that can be perceived? Is grayishness′ unsuitable to g?

Either account ultimately relies on claims regarding the suitability of various qualities of perceptual experiences to various properties of worldly objects. While different creatures may be equally reliable in tracking objects' worldly properties via their phenomenal experiences, only the characters of some such creatures' experiences' characters reveal/reflect/represent/etc. what the world is really like. The difficulty is that making non-trivial sense of these claims apparently requires some substantive notion of what a worldly property is like that is entirely independent of our substantive notions of what it is like for us to perceive that property. This sort of conceptual confusion involved in distinguishing what it is like to perceive a property from what that property is like is sometimes invoked in arguments against the possibility of character varying independently of content. In "Intentionalism Defended", Byrne imagines a study in which lay folk are taught the language of phenomenal character and then questioned about the characters of their experiences. Subjects are shown three separate chips separately. The first two are red and the last is blue. "All can agree that, insofar as "what it's like" to undergo the experiences is concerned, seeing the first chip and seeing the second have something in common that seeing the third lacks" (2001, 206). They are taught to record this difference by saying that the first two experiences have the R-character, while the last has the B-character. Byrne points out that a

subject clearly misunderstands this new concept who claims, while looking at a blue chip, that his experience has suddenly shifted from the B-character to the R-character even though the chip continues to look blue to him. The subject cannot assess the character of his experiences of the chip independently of his assessment of how the chip perceptually seems to him to be.

The confusion of Byrne's imagined subject, I suggest, occurs more subtly on a larger scale when philosophers assume they can independently assess a phenomenal property and a worldly property to decide whether or not that phenomenal property is suited to that worldly property. While the confused study participant is only considering one property and one experience, we have endlessly many interrelated properties and experiences. However, all of our knowledge of worldly properties ultimately depends upon perceptions of the world. For instance, we might begin with visual representations of triangles, and then derive principled information about all possible triangular′ representations (i.e. the angles must be 180°), yet this alone tells us nothing about the suitability of triangular′ or non-triangular′ perceptions of triangular things. Or, we might analyze whether our visual perception of the block jibes with our tactile perceptions or more precise visual perceptions, such as those that include measuring devices. Yet, it is rather mysterious how we might assess whether *all* of our perceptions somehow fit the world that we have learned about through those perceptions.

If you know that Normals, but not Weirds, veridically see the blocks, could a Normal and/or Weird discern this information? Normals have no more reason than Weirds for believing that they veridically perceive the world. There is no unique internal feature of Normals' experiences, as compared with Weirds' experiences, that justifies belief in the veridicality of their perceptions. How would they ask whether their reliable perceptions reflected what the world was really like? Such a question is about how one's experiences relate to how things are. Yet, both the Normals' and Weirds' concepts of worldly properties were christened, taught, and learned in conjunction with their own perceptions. Weirds' concepts of worldly properties, such as g-ness, were developed and learned in conjunction with the properties of Weirds' corresponding grayish′ perceptions. Non-philosophical Weirds likely lack any

concept of grayishness′; they will only think in terms of the posited worldly property of g-ness. If Weirds

fail to veridically perceive the world, then at least one of the following must be true:

    A) Grayishness′ is unsuitable for perception of g-ness.
    B) g-ness is not visually perceptible.
    C) The triangular blocks are not g.

Supposing A were true, then, as 'g' was coined by Weirds with grayish′ experiences talking about objects

that like *that*, contradictorily, 'g' would not refer to g. Weirds would have no reason to endorse B or C

beyond an abstract skepticism that their perceptual experiences are somehow unsuited to the world

they encounter. (They might also wonder whether their perceptions fail to reliably correlate with

worldly properties, but we know such hypotheses to be false.) Normals would be equally well justified

as Weirds in supposing they weren't veridically perceiving the world.

One might allege that the Weirds are simply in an unfortunate epistemic state. Yet, the Normals

and the Weirds have functionally equivalent perceptual systems. The only difference between them

arises from what it is like for them to have various perceptions. Whichever evolutionary pressures give

rise to Normals could equally well give way to Weirds. Furthermore, if Weirds don't veridically perceive,

then, as there are infinitely many potential varieties of equally evolutionarily fit "Weird" perceivers with

similarly "weird" perceptual characters, presumably even Normals cannot justifiably believe in their

veridical perception. Some may accept this conclusion while insisting that human*s can* ascertain the

general veridicality of their perceptions. Perhaps the complexity of human perception rules out the

possibility of radically divergent, functionally equivalent perceivers. Section 5 considers this view.

5. Character Divergence Among Complex Perceivers

It is a common view that there is no unique suitability between hues′ and color properties, such that

aliens who experience green things reddishly′ might yet perceive those green things veridically.

Extensive debate has focused on the potential for creatures with behaviorally undetectable inverted

spectra, such that they experience green things reddishly′, red things greenishly′, etc. yet behave

indistinguishably from normal color seers. People have often reasoned that if such creatures are

possible, we have no reason to rationally conclude that our own color experiences are more revelatory of the nature of reality than the invert's experiences.

Many have taken the apparent inconceivability of a similarly radical inversion with respect to shape as evidence that the spatial characters of our perceptions are uniquely suited to and/or revelatory of the structure of their objects, such that perceptions of those objects that differed radically shape'-wise could not be veridical.[7] The sort of shape inversion typically considered involves a systematic visual character inversion of two shape' properties, such as squareness' and circularity', without any other perceptual change. Given the complex relationships among shapes, it is extremely difficult to imagine this sort of inversion in a well-functioning individual. From this point, much has been concluded regarding the relationship of spatial character to worldly shape properties. For instance, according to Logue, while color phenomenology is mostly explained by contingent facts about our visual systems, "when it comes to the phenomenology of *shape* experience, it's hard to resist the conclusion that the shapes *themselves* are doing most of the work in determining phenomenal character" (2012, 216). I suggest that the alleged impossibility of the favored form of spatial inversion only provides information about the relation that various phenomenal qualities have to one another — such as visual rectangularity' to visual triangularity', etc., as well as visual spatial qualities to tactile spatial qualities — as opposed to the relation of characters to various worldly properties.[8]

Here is an imperfect analogy: Try to imagine a language just like English in every way except that the meanings of the following character strings are inverted: 'That cat is white', 'Are you an American citizen or a German citizen?' All other linguistic meanings are held constant, including the oral versions of these sentences as well closely related character strings such as 'Are you an American citizen or a British citizen?', 'That cat is not white', 'This cat is white', etc. We could certainly adopt such a language effectively in some official sense, perhaps as part of a code or game. Yet, it is difficult to imagine that humans could have such a language as their native tongue without there being *some sense* in which

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[7] Recent versions of this sort of claim are found in Papineau 2021; Levine 2018; Logue 2012; Thompson 2010.
[8] I'll ignore "Molyneux's Question", as my argument is consistent with any answer (1688).

these special strings retain their English meanings or at least bear special semantic relationships to those meanings. It is not merely that such a language would be strange and impractical. Rather, if the speakers are human-like, it seems that these strings *must* bear some special semantic relation to their English meanings, given the meanings of their parts and general compositional and phonetic patterns. Perhaps the sense in which 'This cat is white' would retain its English meaning would be similar to the sense in which "awesomer" means *more awesome* despite the former's lack of "official" status. If we consider longer, more complex strings — or perhaps oral expressions, which take longer to process — particular inversions of specific linguistic representations that leave the semantic properties of all other linguistic representations undisturbed become even more unfathomable.

This result is explained by the complexity of the relations between and patterns among our linguistic representations, rather than some feature of the relations between representations and their worldly objects. To have a language containing an infinite variety of meaningful linguistic representations, how each representation attains its meaning must be tied to other representations' meanings, such that we cannot necessarily invert the meanings of particular representations without downstream semantic effects. However, this result only demonstrates facts about intra-linguistic relations; we would never conclude that the strings 'This cat is white' and 'Are you an American citizen or a German citizen?' must be especially well suited to the aspects of the world that they represent. Surely these strings have their meanings only through historical accident. With sufficient creativity, we could unproblematically conceive of languages in which their meanings are inverted fully such that they bear no special relations to their English meanings. Such languages would simply need to differ from English with respect to other symbols as well.[9]

By allowing for many "compensating" representational changes, we might similarly imagine more possible ways in which the spatial qualities of characters can vary their "semantic values".

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[9] One might think facts require linguistic representations of suitable complexity, such that a complex string can't be translated to 'P' without semantic loss. Yet, while semantically atomic in English, each 'P' has a structure composed of infinitely many points. It's possible to map each semantically relevant component of any string onto a distinct component of 'P', such that the strings offer equivalently complex semantic decompositions.

Thompson argues that some creature's squarish′ experiences of 2:1 rectangles could be veridical in the right circumstances, whereby some perceiver's "experiences of distance need not represent the very same qualities as [another perceiver's] experiences of distance" (2010, 180).[10] In response to the suggestion that the relation between tactile perception and visual perception provides reasoning for ascribing misperception to this seer, Thompson suggests compensating changes to this perceiver's tactile perception (2010, 178). Thompson, therefore, allows for some divergence among the spatial properties of veridical perceptions of objects caused by differences in visual apparatuses. However, Thompson stops far short of FP by requiring that veridicality-preserving distortions preserve "spatial isomorphism", characterized as "an isomorphism between relations within spatial experience and relations among external spatial properties" (2010, 176). Yet, given that all of our sources of information about the external spatial properties of any particular objects are mediated by perception, in practice, this requirement apparently amounts to preserving isomorphism with standard human shape perception, which is presumed isomorphic with "external spatial properties".

Thompson demonstrates that a perceiver with what we would consider a visual-spatial distortion may have compensating "distortions" impacting their tactile perception to preserve the sensible relations between their visual and tactile perceptions. To imagine more radical cases of character divergence, rather than undergoing the arduous task of considering how each aspect of some imagined experience might differ from the corresponding aspect of human experience, we might instead begin with a human wearing virtual reality goggles controlled by an attached camera such that the character of their visual experience is a direct function of the camera's input.[11] Our subject's visual character can be determined by some bijection from the character they would have experienced without the goggles. For any visual input i that causes a typical human to experience a visual field containing n

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[10] Thompson adopts this example from (Hurley 1998). Chalmers endorses Thompson's judgment regarding the veridicality of this perceiver's perceptions, and suggests, correctly I think, that this conclusion leads to a general rejection of the possibility of systematic spatial illusion (Clark and Chalmers 1998; Chalmers 2022).
[11] Given my motivating question, I am focused here on VR instances in which character is directly correlated with the properties of the external physical world, as opposed to perception within virtual worlds as discussed in Chalmers 2016; 2022.

squares, we could design goggles such that the goggled human inputting i experiences a visual field featuring n circles.

Now imagine creatures born with visual systems functionally equivalent to the augmented visual systems of humans in these goggles, such that when a normal human would have n squares somewhere in their visual field upon encountering input i, at least one of these creatures has n circles somewhere in their visual field when encountering i. By not stipulating that each square and circle must be in the same parts of their respective visual fields, we avoid the standard feasibility concerns, such as whether the parts of a checkerboard would overlap. For all we have stipulated, a creature might, when confronted with a checkerboard, experience a visual field with all overlapping circles, no overlapping circles, some overlapping circles, circles that form a giant circle of their own, concentric circles, etc. So long as there are 64 identifiable circles somewhere in the visual field, the stipulated conditions have been met.

You might worry that basic geometrical worries already arise. For instance, let's say that your entire visual field is taken up by a large checkerboard. Then, Ally the alien takes your place and veridically sees everything that you saw, except that Ally's visual field has 64 non-overlapping circles, forming a large circle of their own, and no squares. We might ask: Does each circle represent each square of the checkerboard? If so, what does the funnily-shaped area in the middle of the 64 circles represent? Avoiding "representation" talk, we could alternatively ask: Does Ally see each box of the checkerboard in a circle-ish' way? If so, what, if anything, does she see in the manner of the funny shape between the circles? If the circles in Ally's visual field correspond to the squares in your field, then — since you *only* saw checkerboard squares — Ally must see *more* than you, and thus cannot be seeing all and only the same objects that you saw.

This objection could arise from the following tempting principle:

Weak Isomorphism: If S1 and S2 veridically visually perceive all of the same (parts of the same) objects, then, for each region R1 in S1's visual field, there is exactly one region R2 in S2's visual field such that R1 and R2 correspond to the same bit of the world.

However, the Normals and the Weirds already present a counterexample to Weak Isomorphism. A Normal and a Weird may both see only the triangular block, and yet, there is no particular point in the Weird's monochromatic visual field corresponding to any given point of the block.[12]

Even if Weak Isomorphism doesn't hold universally, you may think that complex perceivers must conform to Weak Isomorphism as a matter of feasibility. You might deny that creatures could have naturally evolved to see a checkerboard via a visual field containing 64 overlapping circles, no less circles forming a giant circle of their own. If such creatures' tactile systems were just like ours, the lack of appropriate correspondence between their visual and tactile perceptions may cause a functional disadvantage. However, just as Thompson describes divergent tactile experiences appropriate to divergent visual experiences, we can similarly imagine more radically divergent tactile experiences to correspond appropriately to radically divergent visual experiences. Along with VR goggles, imagine a permanent "skin suit" that detects objects in its environment via lasers and invokes tactile sensations in response. This suit also restricts the subject's motion so that, given the right sort of laser input, its inhabitants will have sensations such as those you have as you push up against walls or tap your desk. Consider a creature born functionally equivalent to a human wearing both the VR goggles and the bodysuit from birth. Since the camera and bodysuit are taking input from the same external objects, we can ensure they are well correlated so that the visual experiences "fit" with the tactile experiences. That is, if this creature's visual experience when looking at a checkerboard is like a normal human's visual experience of 64 circles arranged in a giant circle, then this creature's tactile experience of a checkerboard might be like a normal human's tactile experience of 64 circular things arranged in a circle. For achievement of the appropriate proprioceptive and self-awareness sensations, we could complement (or replace) the goggles and suit with instruments that directly impact the brain. If

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[12] You might think introducing the secondary perceiver is not relevant. All that matters is whether a part of the visual field corresponds to a part of the world. We could replace Weak Isomorphism with this parallel "Parts" principle. Yet, in attempting to determine whether or not some region of some visual field corresponds to some part of the world, we will need to perceive (or at least model) that part of the world in some way or another ourselves, and then use that representation of the world to evaluate the relevant perceiver.

character supervenes on brain states, we could in principle make any action feel any way to our remodeled human. Then, we could again imagine a creature born that way. What it feels like for this creature to neatly cut up the checkerboard into its 64 individual squares and put them in a pile might be the same as what it feels like for a human to trace the outline of each of the 64 circles and then pile those up.

As I've been addressing the commonly discussed "spatial inversion" possibilities, I have focused on the case of a 64-square checkerboard seen via a visual field containing 64 circles. Yet, according to FP, we might have just as well considered a case in which the visual field contained 62 or 17 circles. Potential feasibility concerns for these cases might involve a commitment to the principle that two things that look similarly in one veridical perception must look similarly in all veridical perceptions. According to this "Similarity Constraint", you might think that all 64 boxes of the checkerboard must be seen in a similar way. However, that constraint fails for ordinary cases of perception. Take a triangular prism, a cube, and a square paper. Any two of these appear more similar than the third in some instances of veridical perception, even with the same parts visible in every case. There is no reason to suppose that things that look similar to us should look similar to all other perceivers. Notably, all objects have endlessly many properties, some more perceiver-centric than others, most of which we don't perceive. There are endlessly many similarities available to be perceived by different creatures with different interests and perspectives.

Returning to the question of mapping our experience of the checkerboard onto some circle-ish′ perception of the checkerboard: there need not be a straightforward answer to which parts of our experience correspond to which parts of that experience.[13] We can answer questions about how changes from our perspective will correlate to changes in from others' perspectives, thus identifying how they track parts of the world that we track. Yet, some of the parts of the world that are important to us, like checkerboard squares, might seem like ad hoc mereologies to other perceivers, and vice versa with

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[13] This could be put in terms of correspondence "to the world". The same concerns apply, as we still need to identify the bits of the world as we can perceive or otherwise represent them.

respect to parts of the world that they care about. Still, this does not mean that these creatures cannot successfully navigate the checkerboard as well as us. Since their odd-to-us visual experiences of the checkerboard will be matched with correspondingly odd-to-us tactile experiences and proprioceptive experiences, their navigation of the checkerboard need not involve ad-hoc strangeness identifiable within their perspective on the world. The strangeness only emerges when we attempt to "translate" their experiences into ours or vice versa. You might suspect that feasibility concerns due to structural differences will arise for this "translation", especially as we consider cases in which the complexity of a given perceptual experience seems misaligned with the complexity of the perceived objects. However, this "translation" can be as ad hoc as we wish. Our strangely perceiving creature is not impeded by the fact that how things look or feel to them is radically different from how these same things look or feel to us. So long as their experiences fit together as well as ours and track as much information about the world, there is no reason to think that we could navigate the world more effectively than they.

　　Take the action of piling cubes to form a wall. This action consists of moving one's body in particular ways (the details depend on the sort of body one has). In principle, just as any visual or tactile input could produce any phenomenal experiences, undergoing such actions could produce any subjective sensations. You might think that building a wall of cubes would be difficult for a creature who has circle-ish experiences when looking at the cubes. However, if the act of piling up the bricks feels subjectively like, say, moving spheres into a row, such that how navigation proprioceptively feels is symbiotic with how the world looks and tactilely feels, such creatures could be as effective wall-builders as us. To make this work, the "translation" from their experiences to our experiences may seem rather strange and unnatural. For instance, giving up on the Similarity Constraint discussed above, two things that look very similar to us might look very differently to other creatures. A single, salient-to-us object may seem an unremarkable jumble of parts to other creatures. This fact about the comparison between us and them does not impede their activities. We may suppose plausible restrictions on the similarity relations *within* the perspective of one creature. We might expect some general pattern of similarities such that, for instance, if the visual phenomenology of putting one brick on the wall is extremely similar

to the visual phenomenology of putting another brick on the wall, then there will also be a similarity between the proprioceptive phenomenology of these actions. This principle is rather difficult to precisify given that, even for humans, similarity relations among visual experiences are far from a perfect guide to similarity relations among proprioceptive or tactile experiences. However, so long as we have the freedom to make the bijection between imagined alien experiences and our own experiences as ad-hoc and unnatural-seeming as we like, we can ensure that similarity relations within the alien's experiences are at least as robust as our own. Thus, as far as the argument for FP goes, the precise requirements of internal similarity are unimportant.

Similarly, in imagining our functional equivalents, you might wish to impose some constraints for perception of apparently continuous changes over time. Yet, there is no reason to suppose that such constraints would cause a problem for FP. All we need to characterize about a possible perceiver S is that, upon seeing one particular set of objects (as they are at a stipulated point in time), S's perception has a particular character. The rest of S's perceptions, including S's visual perceptions of the given objects as they are at different points in time, S's visual perceptions of all other sets of objects, and all of S's other perceptions (and proprioceptive awareness) can be however would be most adaptive. After all, every visual phenomenal character could be continuously changed in infinitely many ways.

At this point, we find ourselves with respect to divergent shape perceivers just as we are to color inverts and as the Normals are to the Weirds. We lack non-circular justification for believing that our perceptions are more veridical than their functional equivalents. If we were to point out that these creatures' alleged perceptions violate Thompson's isomorphism principle, their philosophical representative could produce an equivalent argument demonstrating that human perceptions violate their isomorphism principle. Every claim about the structure of external properties will take for granted that some representation of those properties shares their structure. If two perceivers experience the same tactile characters but different visual characters, one might offer the other an argument that their own visual characters more fittingly match the external world via a demonstration that relies on shared tactile experiences. However, without any such neutral representation, the claim that our perceptions

are more veridical than those of functionally equivalent apparent perceivers has no grounds beyond

blind faith in our superiority.

One might argue that the sort of tactile perception described above would be less direct than our

own given that we tactilely perceive objects by bumping our body parts directly up against them, while

these creatures' tactile perceptions are laser-mediated. However, such an argument implicitly depends

upon the assumption that our visual perceptions are more veridical than these creatures' alleged visual

perceptions. Our only justification for the belief that we are actually up against items while these

creatures are not comes from our visual and tactile experiences; however, these creatures will similarly

visually represent their own tactile perceptions to be more direct than ours. Just as Papineau concludes

that "evolution has no doubt selected" the characters of our spatial experiences for representing

corresponding worldly spatial structures, these creatures will conclude that evolution has effectively

selected the structures of their experiences to represent worldly structures (2021, 111).

While I argue that our imagined creatures can perceive all objects we can perceive, they will

likely talk about and care about different bits of the world than we care about. Consider creatures who,

for instance, would, when visually confronted with all you are seeing now, experience a character that

you would describe as seeming like an abstract dot pattern. Such creatures would likely not bother to

coin a term for your laptop, even if they encounter laptops frequently, given laptops' arbitrary role in

their perspective on the world. Just as we see many entities, such as random mereologies of various bits

of different objects, for which we lack special names or concepts, our ordinary objects might be

perceived by creatures that do not bother to name them. One might insist that there are self-evident

restrictions on the character of veridical experiences of objects like laptops and pens. Siegel offers the

following constraint on object perception: "If S sees o, then S's visual phenomenology differentiates o

from its immediate surroundings" (2006, 434). As stated, this principle seems to fall prey to simple

counterexamples, such as the case of an individual who stands extremely close to a huge red wall, such

that their entire visual field is red', and thus does not visually differentiate the wall from its immediate

surroundings despite, it seems, seeing the wall. Interpreted to limit what it takes to specifically perceive

o *as an object*, this principle is consistent with FP. Siegel's further suitability claim — "[I]f one saw an otherwise uniform expanse that was half blue and half green, that would not be phenomenology suitable for seeing Franco" (2006, 435) — might too be compatible with FP if we interpret "seeing Franco" to mean "seeing Franco as Franco".

FP is about character constraints on veridical perception of objects, but what about character constraints on veridical perception of properties? FP does not automatically rule out such constraints, given that veridical perception of objects does not require perception of all of their properties. For instance, one could veridically see a red box without perceiving the box as red. That being said, my argument for FP commits to the claim that, for any perceivable property p, one might perceive a property that necessarily coextends with p via any character. Therefore, so long as properties are individuated intensionally such that distinct properties cannot necessarily coextend, my view is inconsistent with character constraints on property perception. If properties are individuated more fine-grainedly, my view could be compatible with such constraints. For instance, if one says that redness necessarily coextends with — but is distinct from — property p, then, without rejecting my argument for FP, they may claim that red′ experiences are required for perceiving o as red. Alternatively, without abandoning the intensional individuation of properties, one might preserve an intuition that seeing x "as red" requires redness′ by interpreting "seeing x as red" opaquely. On such a view, the sense in which some creatures don't see x as red, despite seeing x as p, even though redness is identical to p is like the sense in which one might not see that Superman has arrived despite seeing that Clark Kent has arrived even though Clark Kent is identical to Superman. Or, of course, one might simply reject intuitions like "seeing x *as red* requires redness" as mistaken, along with intuitions about character constraints on object perception. Any of these options is consistent with the view defended here.

While I have argued against an abstract Similarity Constraint, Similarity-Based concerns about concrete cases may linger. Imagine that you veridically see two qualitatively identical black cubes, side-by-side, each with exactly one side visible to you, floating in white space. Your visual field is symmetric along the veridical axis, with a black square on each side. Now, Alien Al takes your place, and looks at the

same scene, perceiving everything that you perceive via a visual field just like yours, except that the right square is replaced with a black circle. Even if you accept that square surfaces can be veridically perceived circle-ishly, you might think that this case presents a further problem: If cube C2 looks circle-ishly′ from Al's perspective and cubes C1 and C2 are qualitative duplicates, then surely C1 should also look circle-ishly′ from Al's perspective! Isn't Al perceiving a difference where none exists?

First of all, recall that FP only guarantees that Al veridically perceives both cubes via the specified visual field, not that he specifically perceives one cube via the square and one cube via the circle. If we reject *Weak Isomorphism*, as I've advocated, we must be content to accept the possibility that there is no fact of the matter about how the sub-regions of your visual field correspond to the sub-regions of Al's visual field, even as we stipulate that you and Al perceive exactly the same objects. This possibility alone should suffice to quell worries about this case.

Still, setting aside the possibility of mere holistic translation, there are a variety of ways one might want to spell out a correspondence between Al's field and yours, depending on the omitted details about Al's perceptual faculties. For instance, perhaps the top halves of both shapes in Al's visual field "correspond" to the left square in your visual field, and the bottom halves of each shape in Al's visual field "correspond" to the right square in your visual field. Such a mapping preserves an intuitively appropriate similarity between how Al perceives the two cubes, thus evading the motivating worry. Still, further cases could be cooked up where this sort of similarity-preserving mapping is not available.

Yet, in rejecting the Similarity Constraint above, I have argued that such similarity need not be preserved. So let us now consider a case in which Al *does* see one cube via the square and one cube via the circle. Must Al falsidically perceive a non-existent difference? Not necessarily. All differences in how the cubes appear may still be attributable to differences between Al's respective perspectives on the cubes. Since the cubes are qualitatively identical, if we invert the positions of the cubes, Al's post-inversion visual field must be the same as his pre-inversion visual field. There are many ways to fill in the details of Al's vision to accommodate this. For instance, perhaps, square objects present more roundishly′ when they are further right in Al's visual field, somewhat like how circular objects present to

us more oval-ishly' when seen at certain angles. In this case, if we remove C2, and shift C1 gradually

rightward, the left square in Al's visual field will gradually morph into a rounded shape, until eventually

— when C1 reaches the original position of C2 — there is a circle on the right of Al's visual field exactly

like the circle corresponding to C2 in the original setup. Given his lifetime of accommodation to this

visual system, Al thus sees the cube's sameness in shape, despite their differing presentations, just as we

see the sameness in shape of two circular tabletops presented at different angles.

I lack space here to develop a complete account of Al's perceptual systems. Still, to appreciate

the plausibility of this case, we might imagine that Al, unlike humans and most of our evolutionary kin, is

radically asymmetric — at least as we perceive him. Maybe Al's body is such that, as object o moves

rightward in his visual field, which body parts can interact with o changes such that whenever he

tactically engages with the cube, its feel appropriately relates to its appearance. Perhaps different sorts

of objects are easier to recognize and use when presented at different points on this spectrum, so

accessing this range of perspectives benefited Al's ancestors. Still, even if it is useful for Al's shape

perception to vary along the left-right dimension in this way, you may insist that Al perceives a

difference where none exists. While the cubes differ in location, this difference is already registered in

Al's vision in the usual way. Al's perception thus seems to encode a difference in the cubes over and

above their difference in location.

In response to this worry, consider another way the cubes differ: C1 is closer to Al's "circle-ish

side" — the side on which square surfaces appear (and feel) circle-ishly' — while C2 is closer to Al's

"squarish side". This difference between C1 and C2 only contingently correlates with their difference in

location with respect to Al, given the possibility of Al's anatomical inversion. Of course, we could identify

a similar difference between your perspectives on the cubes, focusing on the different relations C1 and

C2 respectively bear to your distinct eyes. However, the near-perfect symmetry of your visual system

explains why this difference is effectively irrelevant to your experience. In contrast, due to the dramatic

difference between the sides of Al's perceptual system, the side of his visual system from which Al

perceives an object impacts character beyond determining which side of his visual field presents that

object. Al simply occupies a greater diversity of perspectives than we do.

We can thus understand Al's case as a slight variation on the cases of Character Divergence

introduced in Section 2. The standard cases motivating this paper take the following form: S1 and S2 see

objects W via radically different characters. If both perceptions are veridical, and the seen objects are

identical, then what could explain this character divergence? In short, my answer has been: facts about

the difference between S1's and S2's respective perspectives on W. I have argued that perspectival facts

necessarily determine character in conjunction with facts about the nature of perceived objects.

Different perspectival facts can account for different characters, even when the perceived objects are

held constant. In the case of Al, instead of comparing two subjects' perspectives on the same object, we

compare one subject's perspectives on two objects. Mirroring the above form, Al's case can be

characterized as follows: Al sees C1 and C2 via radically different characters. If both perceptions are

veridical, and the seen objects are (qualitatively) identical, then what explains this divergence in

character? I answer: facts about the difference between Al's perspective on C1 and Al's perspective on

C2.

Finally, one might worry that my arguments about the subjectivity of similarity relations across

space will overgeneralize to include similarity relations across time, leading to a more radically

revisionary view. For instance, let's say S watches a static scene for one minute, receiving constant visual

input across this period. However, 33 seconds in, S's experience undergoes a dramatic shift in character.

From our perspective, it may seem as if this change is caused by a change in S's visual system. That is,

after 33 seconds, aspects of S's visual system alter such that the same visual input now leads to a

different brain state, causing S to have a different experience despite apparently watching a static scene.

However, if we invert the scenario such that S is watching us watch the scene, it may have seemed to S as

if our visual system had abruptly changed 33 seconds in, such that, although we started receiving

different input, our brain state (with respect to our visual experiences) remained the same. You may

think that my arguments lead to the claim that both S and we may see this scene veridically. If this is the

case, we get a vastly more radical view, leading to a version of FP that applies to lifelong experiences and trivializes perceptual reliability, eliminating the possibility for any substantive notion of veridical perception.

However, we have good reason to reject this more radical version of FP. As the case is described, according to S's own perspective, S's visual system, along with the rest of S, will have also changed during this period. Perhaps, we could construct a version of the case in which each creature of this species undergoes a certain change in perspective at a set point in time, such that S anticipates and understands the change, and, perhaps perceives veridically prior to and after the change. Or, maybe S is ignorant and doesn't realize that he has changed. Still, it is within S's power — or, at least, within the power of someone with S's capabilities — to scientifically discover this change within the S perceptual systems, and to discover that it is in fact him and not the world that has changed. No symmetric evidence is available to us suggesting that we've changed.

I have not proven that there could not be some abstract, true principle entailing constraints on how a given set of objects could be veridically perceived by any well-functioning creature, regardless of the rest of the subject's perceptual systems. I have made the case that we cannot presume there is such a principle, that we have reason to think there is no such principle, and that simple candidates for such a principle will fail. If such a principle exists, its identification would be of great value to philosophy. Either way, the accepted inference from the difficulties involved in systematically "inverting" human visual spatial perception to character constraints on veridical perception must be abandoned. Furthermore, without non-circular justification for perceiver-independent character constraints, we should continue to treat more radical character divergence as we treat everyday character divergence.

6. Conclusion

I have argued that any visual character is capable of being the character of a veridical perception of any visually perceptible set of objects. Given that everyone already accepts some character divergence among veridical perceptions of the same objects, accepting FP only amounts to changing the degree of divergence permitted, as opposed to an in-kind shift. Accepting FP should not threaten our confidence in

the veridicality of the commonsensical or standard scientific truths we learn about the world via perception. Yet, with respect to philosophical and metaphysical investigation, FP has radical consequences for attempts to ascertain universal truths about the world's structure. If FP is correct, then the character of each of my experiences (independently of it being specifically *my* experience) is compatible with every possible subset of properties independent of me. Furthermore, this conclusion applies equally to my perceptions of what perceivers like me are like and how sensory apparatuses like mine are constructed. Thus, when I perceive that something seems a certain phenomenal way w to a perceiver like me, I perceive only that some bit of the world seems way w to *some* perceiver, namely *me*. And, if my account is correct, *any* visually perceptible set of objects is such that it would seem way w to some possible perceiver.

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