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Subjective Perspectives and Perceptual Variance

Susanna Schellenberg (Rutgers)

Perception is to its core perspectival: we perceive our surrounding from a location, under specific lighting and acoustic conditions and other such perceptual conditions. Due to the perspectival nature of perception, any case of perception can have both variant and invariant properties. While the variant properties alter with changes in perceptual conditions, the invariant properties remain stable regardless of such changes. What is the nature of these variant and invariant properties? Are they properties in our environment? Are they properties of perceptual consciousness? By explaining the variant and invariant aspect of perceptual consciousness in terms of representations of external, mind-independent properties in our environment, this paper furthers an externalist account of perceptual consciousness. In doing so, it breaks with a long tradition—still alive today—of analyzing perspectival variance purely in terms of mind-dependent appearance properties. Perceptual variance is a key aspect of our subjective perspective and our egocentric point of view. The offered analysis of perspectival variance provides an explanation for how perspectival variance characterizes the subjective perspective of any perceiver—be it a dolphin, snake, or human.

When we see a mountain first from a distance and then from close up, there is a respect in which we perceive its size to remain constant and a respect in which its size appears differently. Similarly, when we hear a cello first played in a concert hall and then played on the street, there is a sense in which we perceive its sound to be the same, but also a sense in which it sounds differently. Finally, when we see a uniformly white wall that is illuminated unevenly, there is a sense in which we perceive the color to be uniformly white, but also a sense in which its color appears differently in the shadowy corners compared to the parts illuminated by sunlight. More generally, any case of perception is subject to perspectival variance and can manifest perceptual constancy.

Perceptual variance is due to the perspectival nature of perception: we perceive from a location, at a specific time, and under specific perceptual conditions. Sensory organs differ dramatically in how they are spatially extended. One can imagine a perceiver who can see an object from several angles simultaneously. While there can be such differences, it is a necessary feature of perception that it unfolds from somewhere, at some time, under specific perceptual conditions.

Since perception is to its core perspectival, any case of perception can have both variant and invariant properties. The variant properties alter with changes in perceptual conditions, where perceptual conditions are features in the environment, such as the location of a perceiver, the lighting conditions, and acoustic conditions. The invariant properties remain stable regardless of such changes.

The question then arises: what is the nature of these variant and invariant properties? Are they properties in our environment? Are they properties of perceptual consciousness? More specifically, we can distinguish three questions about variant and invariant properties:

Metaphysics Question: What is the nature of the properties to which one is perceptually related?

Content Question: What does a perceiver represent when perceptually related to those properties?

Consciousness Question: What does a perceiver experience when perceptually related to those properties, that is, what properties characterize her perceptual consciousness?

I will address all three questions as I develop my view. I argue that in any case of perception just as there is a mind-independent *invariant* property in our environment that we can perceive, represent, and misrepresent, there is a mind-independent *variant* property in our environment that we can perceive, represent, and misrepresent. I argue that perceptual consciousness of perspectival variance is grounded in their representation. Analogously, perceptual consciousness of invariance is grounded in representations of invariant properties in our environment. By explaining the variant and invariant aspects of perceptual consciousness in terms of representations of external, mind-independent properties, I am furthering an externalist account of perceptual consciousness. In doing so, I am breaking with a long tradition—still alive today—of analyzing perspectival variance purely in terms of mind-dependent, appearance properties.

The larger goal is to develop a view of subjective perspectives that is sensitive to the fact that there are aspects of subjective perspectives that we share with non-rational animals. There are at least three elements to subjective perspectives. One is due to representing objective, mind-independent, yet relational properties in our environment. A second is due to our beliefs, background views, and the mental tools we possess and employ, such as our concepts and perceptual capacities. A third is due to how we represent ourselves in relation to the world we navigate. Historically, these three elements of subjective perspectives have been conflated. This is a mistake.

This paper develops an account of the first of these three elements of subjective perspectives. Perceptual variance is a key aspect of our egocentric point of view. The analysis of perspectival variance in terms of representations of mind-independent properties in our environment provides an explanation for how perspectival variance can be an element of the subjective perspective of any perceiver—be it a dolphin, snake, or human. So, it is analyzed without over-intellectualizing this key aspect of subjective perspectives. As I will show, it allows for an account of perspectival consciousness that is thoroughly naturalist, insofar as it does not appeal to strange particulars and abstract entities, such as sense data or qualia. This paper is a first step in developing this view. My focus here is on perception, but my arguments generalize to aspects of the first-person more generally.

I proceed as follows. First, I present a framework within which to discuss variance and constancy. Then, I discuss a range of desiderata that any account of perspectival variance and perceptual constancy should arguably satisfy. In light of this, I argue for a particular way of understanding mind-independent, variant properties in our environment, namely as situation-dependent properties. I do so in two steps. In step one, I develop their metaphysics. In step two, I give an account of perceptual consciousness of perceptual variance and invariance. Along the way, I discuss a range of questions and objections and compare my account to alternative views in philosophy, neuroscience, and cognitive psychology.

1. Framework for Analyzing Perceptual Variance and Invariance

For both variant and invariant properties, we can distinguish an external, mind-independent property in the *environment* from a mind-dependent property of *consciousness*:

	invariant property	**variant property**
external, mind-independent property in the environment	intrinsic property	perspectival property
mind-dependent property of consciousness	constancy property	appearance property

Uncontroversially, there are external, mind-independent properties that remain unchanged as the perceptual conditions change, ceteris paribus. We can call these *intrinsic properties*. I will discuss intrinsic properties in more detail when I develop my positive view. For now, the important point is that we can contrast these *external*, mind-independent properties from properties of the perceiver's *consciousness* that remain invariant as the perceptual conditions change ceteris paribus. We can call these *constancy properties*. Intrinsic and constancy properties are both invariant; however, while the former are properties in the environment, the latter are properties of a perceiver's consciousness.

Similarly, we can distinguish two kinds of variant properties: an external, mind-independent property in the environment and a mind-dependent property of consciousness. As there are properties in the environment that are unaffected by perceptual conditions, there are external, mind-independent properties that depend on perceptual conditions. I will call these *perspectival properties*.[1] Perspectival properties may be constituted by a relation to a location that a perceiver happens to occupy, but they do not in any way involve relations to the perceiver, be it her consciousness, her mental state(s), or perceptual system. Since they do not constitutively involve anything mental, they are mind-independent. I will develop a specific way of understanding perspectival properties, namely as situation-dependent properties. I am using the term "perspectival properties" to refer to any of the many ways of analyzing external, mind-independent variant properties.

We can contrast perspectival properties from mind-dependent properties of consciousness that change as the perceptual conditions change ceteris paribus. We can call these *appearance properties*. Historically, perceptual variance has been discussed solely in terms of appearance properties without making any room for perspectival properties. I believe this to be a mistake.[2] As I will argue, it is crucial

[1] For discussions of perspectival properties, see among others Tye 1995, Noë 2004, Briscoe 2009, 2011, Bennet 2009, Jagnow 2012, Hopp 2013, Schwenkler 2014, Briscoe and Schwenkler 2015, Schroer 2017, Lande 2018, McGrath 2018, Schwenkler and Weksler 2019, and Wilson (forthcoming and manuscript). For a discussion of how to evaluate the nature of perspectival properties empirically, see Weksler 2016. [Reference ommitted for blind refereeing]

[2] For a critical discussion of such views, see [reference omitted for blind refereeing].

to distinguish between the aspect of perceptual variance that is due to perspectival properties of the perceiver's environment and the aspect that is due to properties of the perceiver's consciousness. Further, it allows us to see that perspectival variance and perceptual invariance are on a par in so far as each has both an objective and subjective aspect: a mind-independent property in the environment and a property of consciousness that tracks the environmental property.

It will be helpful to illustrate these four properties in a specific sensory modality. Take a case of spatial perception, namely perceiving the shape and size of an object. The relevant perceptual condition is the perceiver's location. The intrinsic and constancy properties remain unchanged as the perceiver's location in relation to the perceived object changes, ceteris paribus. By contrast, as her location in relation to the object changes, ceteris paribus, she is related to different perspectival properties and, as a consequence, the appearance properties characterizing her phenomenal character change.

To use a specific example, consider two trees of the same size at different distances from a perceiver's location. There is a respect in which the perceiver sees the trees as being of the same size, but there is also a respect in which they appear differently.[3] The two trees have the same intrinsic size properties. If she sees the two trees as having the same size, her perceptual consciousness is characterized by a constancy property. Seeing the two trees as having the same size despite them being at different distances from her location is the result of size-distance scaling operations of the perceptual system. The perspectival size property of the closer of the two trees differs from the perspectival size property of the tree further away relative to her location. Her perceptual consciousness will be characterized by appearance properties that track this difference. I will return to this example throughout the paper and will refer to it as *Peacocke's trees*.

Before developing these ideas further, it will be helpful to make a clarificatory comment about how things look. Perceptual variance and invariance are standardly analyzed in terms of how things look. I avoid appealing to looks for at least two reasons. One is that there is vast disagreement about how things look.[4] A second is that looks can be argued to track any one of the four properties we distinguished: intrinsic, perspectival, constancy, or appearance properties. Indeed, for each one of these four properties, there is a philosopher who insists that "looks" tracks that property. Price (1932) argues that how things look tracks constancy properties. According to Martin (2020), how things look tracks what I am calling intrinsic properties. Hill (2014, 2016) has it that how things look tracks appearance properties.[5] McGrath (2018) argues that how things look tracks perspectival properties.[6]

[3] This example stems from Peacocke (1983, p. 13), who analyzes the difference between the actual and the apparent sizes of the trees in terms of "a duality of representational properties and properties of the two-dimensional visual field." He identifies the properties of the two-dimensional visual field as sensational properties. So according to Peacocke, the difference between the perceptions of each tree is a difference in sensations, and not, as I will be arguing, a difference in representations. So, while Peacocke in his 1983 book accounts for perceptual variance purely in terms of the phenomenal character of perceptual states, I argue that perceptual variance is best analyzed as featuring both at the level of representational content as well as the level of phenomenal character.

[4] For neuroscientific evidence of variability of how things look, see Schwarzkopf, Song, and Rees 2011.

[5] Hill's Thouless properties are mind-dependent properties given that they are individuated by the visual system (among other features).

[6] For a general discussion, on the use of looks, see Glüer 2017.

2. Desiderata for an Account of Perspectival Variance and Perceptual Constancy

Any account of perspectival variance and constancy should satisfy certain desiderata. Here are a few.

Range Desideratum: To explain the fact that external, mind-independent objects, events, and property-instances can be perceived under a range of different perceptual conditions, none of which are privileged as the normal perceptual condition.

We can see the intrinsic shape of a coffee cup from a wide range of different angles. Similarly, we can see the white color of a wall regardless of whether we are seeing it when the sun is shining on it at noon, when the sun is setting, or when we have turned on the fluorescent overhead lights. More generally, we can perceive mind-independent intrinsic properties under a range of different perceptual conditions, none of which is privileged as the normal perceptual condition.

Of course, there are exceptions. We cannot see the white color of the wall when it is pitch dark nor can we see much at all if light is shining directly into our eyes. Similarly, we cannot see the shape of a coffee cup if it is only an inch away from our eyes, or if it is many miles away. Neither can detect the taste of cauliflower if it is drenched in chili sauce. While there are such exceptions, there is nevertheless a wide range of perceptual conditions under which any mind-independent object, event, or property-instance can be perceived.[7]

Dual Aspect Desideratum: To explain the fact that perceptual consciousness may be characterized by both appearance and constancy properties.

Consider Kim who is pacing in her room looking at a coffee cup. She is aware of the cup's shape being presented differently as her relation to the cup changes. Nevertheless, she sees its intrinsic size as remaining the same. More generally, a perceiver's perceptual consciousness can be characterized by both appearance and constancy properties. Any viable account of perceptual variance and invariance should explain this fact.

Primacy of Constancy Desideratum: To explain the fact that in at least some cases, perceptual systems prioritize perceptual constancy.

For evolutionary reasons, the human perceptual system prioritizes tracking intrinsic properties in the environment over perspectival properties. The point is not that we are not aware of perceptual variance, but that invariant properties often take center stage in our perceptual consciousness.[8] Any account of perspectival variance and perceptual constancy should have the tools to explain this phenomenon.

Consistency Desideratum: To explain the fact that perceptual content can be consistent despite representing both intrinsic and perspectival properties instantiated by the same object in the perceiver's environment.

[7] For discussion, see Hardin 1988, Phillips, Todd, Koenderink, et al. 2003, Todd 2004, and Hilbert 2005, among others.
[8] For discussion, see Rock 1983, Murray et al. 2006, Schwitzgebel 2006, Arnold et al. 2008, Stone 2010, Pohl et al. 2010, Storrs and Arnold 2013 among others. Despite these processes of the constancy mechanism of the perceptual system, recent research suggests that it is standard for representations of situation-dependent properties to be retained. See Morales, Bax, and Firestone 2020.

Consider a perceiver who sees the rim of a cup at an angle and is aware of both its intrinsic round shape and the way that round shape manifests itself relative to her location. Assuming standardly (but not uncontroversially) a representationalist view of perception, she will represent both the variant and the invariant property. Any account of perspectival variance and constancy should explain how perceptual content can represent both intrinsic and perspectival properties while nonetheless being consistent.[9]

Variance Without Illusion Desideratum: To explain perspectival variance without resorting to illusions.

Consider again Kim who sees a coffee cup while pacing in her room. The rim of the cup appears differently to her as she moves around the room. Similarly, the whiteness of the wall appears differently in different lighting conditions. Historically, such changes were treated as illusory on grounds that the intrinsic properties in the environment do not change. However, there is an actual change in the environment that explains the experience of variance. There is a fundamental difference between cases such as ones in which an airplane appears ever smaller as it flies into the horizon and psychological illusions such as the Müller-Lyer illusion and the Tichner circle.[10] The former are due to changes in our environment. By contrast, psychological illusions, such as the Müller-Lyer illusion, are due entirely to the perceptual system processing incoming information in ways that lead to mistakes. If a subject's perceptual experience is characterized by perspectival variance due to changes in the environment, this does not entail that the experience is illusory.[11] So as to avoid proliferating cases of illusion, an account of perspectival variance should acknowledge this fact as well as the difference between cases of perspectival variance and genuine psychological illusions. In what follows, I will put forward a view that satisfies these five desiderata.

3. The Metaphysics of Situation-Dependent Properties

There are many possible ways of understanding perspectival properties. I suggest that we understand them as situation-dependent properties, namely properties that are constituted by intrinsic properties and relevant perceptual conditions (e.g., lighting conditions, color context, acoustic conditions, gustatory context, or the location that the perceiver happens to occupy).

Consider again Kim who is pacing in her room with a cup in view. The rim of the cup is intrinsically round, and she is perceptually related to that intrinsic round shape. As her perceptual relation to the cup changes, she is perceptually related to distinct situation-dependent properties. After all, at any given moment, the situation-dependent property she perceives is constituted by the location she occupies at that moment and the intrinsic shape of the cup's rim. As I will argue, due to representing the situation-dependent property, her perceptual consciousness is characterized by an appearance

[9] It should be noted that Mendelovici (2018) rejects the consistency desideratum arguing that perceptual content is inconsistent due to representing variant and invariant properties.
[10] I discuss this in more detail in Section 4.3.
[11] It is worth noting that according to Hatfield (2009) all constancy representations have illusory aspects. He has it that one needs to appeal to the role of the visual system (not just external perceptual conditions, which with the intrinsic property provide the perspectival property) to capture the diminished apparent size of the distant tree.

property. Since she is perceptually related to distinct situation-dependent properties, her perceptual consciousness is characterized by distinct appearance properties as her location relative to the cup changes. Due to representing the rim's intrinsic round shape, her perceptual consciousness is characterized also by a constancy property.

We can make the same distinction for audition. We can distinguish the intrinsic sound of a cello—that we can recognize regardless of whether the cello is played in a concert hall, a garden, or a small living room—from differences in how the cello sounds under those different acoustic conditions. The situation-dependent sound of the cello is constituted by the intrinsic sound of the cello and the acoustic conditions.

The distinction can be drawn also for olfaction. Take the smell of coffee. We can distinguish the intrinsic smell of coffee from the way coffee smells in the context of the smell of smoke, on the one hand, and the smell of freshly baked bread, on the other. We can recognize the intrinsic smell of coffee under these different olfactory conditions. Finally, we can distinguish the intrinsic taste of camembert cheese from the way it tastes under different gustatory conditions: it tastes differently when eaten with bread than when eaten while drinking a glass of wine.

More generally, we can specify situation-dependent properties as follows:

> *Situation-Dependent Property:* an external, mind-independent property that is exclusively constituted by an intrinsic property and perceptual conditions.

So, situation-dependent properties are relational properties. However, as I will argue shortly, despite being relational properties, typically they appear as monadic properties. Representing a situation-dependent property does not require representing its constituents, nor does it require representing it as a relational property: a perceiver can be oblivious to the relational structure of a situation-dependent property and represent it as if it were a monadic property (though of course typically not under that label). As a consequence, situation-dependent properties can be perceived without representing or being aware in any way of the current perceptual conditions.

Further, as I will argue, situation-dependent properties are not 2D projections, that is, they are not projections onto a plane located between the relevant intrinsic properties and the pereiver. In the typical case, they are 3D properties. In the spatial case, as I will discuss in due course, one can think of them as elements of centered worlds. However, centered worlds are helpful only to analyze spatial situation-dependent properties. They do not help in analyzing either color properties or most situation-dependent properties that we perceive through non-visual senses.

Since both intrinsic properties and perceptual conditions are external and mind-independent, situation-dependent properties are external and mind-independent properties in the environment. After all, they are exclusively constituted by the intrinsic properties perceived and relevant perceptual conditions. To understand the details, it will be helpful to take a closer look at perceptual conditions and intrinsic properties.

Perceptual conditions are current, mind-independent features of the environment. The crucial perceptual condition for the perception of size, shape, and other spatial properties is the location that a perceiver happens to occupy in relation to the intrinsic property. For the perception of color and

shading, the crucial perceptual conditions are the lighting condition and color context. For the perception of sound, the acoustic conditions and the acoustic context are among the relevant perceptual conditions. A cello sounds different when played in a concert hall or a living room (acoustic conditions) and it sounds different when played in a string quartet compared to when heard through the cacophony of an orchestra (acoustic context). The acoustic conditions include reverberation properties, refraction properties, and diffusion properties of the environment as well as the size and shape of the environment. For taste, the gustatory context is relevant. So, a situation-dependent property can be indexed to a point in space or to non-spatial perceptual conditions.[12] In short, being a mind-independent feature in the environment that constitutes how an intrinsic property is manifested fixes the reference of the term "perceptual condition".

To clarify which perceptual conditions are relevant, consider a case in which you see an array of intrinsic and situation-dependent properties. At time t_1, you see the array without any interference. Then at time t_2, you see the same array, but this time unbeknownst to you through carefully arranged mirrors. Neither your location nor the array has changed between t_1 and t_2. Moreover, the mirrors are set up so that you perceive the array to be exactly where it in fact is. You do not notice and do not know about the presence of the mirrors. So from your point of view, things look exactly the same at t_1 and t_2.[13] The situation-dependent properties to which you are perceptually related are distinct in the two situations: at time t_1 they are constituted by the mirrors (among other perceptual conditions), while at time t_2 they are not. Since situation-dependent properties are not individuated by their looks, the fact that they look the same in the two situations is irrelevant. I will discuss more such examples shortly, but for now, I will move on to discuss intrinsic properties.

So far, I have glossed the idea of an intrinsic property as an external, mind-independent property that remains unchanged as the perceptual conditions change, ceteris paribus. More precisely, we can say that an intrinsic property is a property that does not depend on relations to other environmental particulars distinct from itself. With "intrinsic properties" I mean always perceivable intrinsic properties since those are the properties of relevance to the current discussion.[14]

One might challenge the idea that intrinsic properties are invariant given that over time the intrinsic size of a tree, say, gradually changes. No doubt, everything changes over time, but that is not the issue here. "Intrinsic property" is a functional term. Moreover, it admits of degree: relative to the lighting conditions, the intrinsic white color of a wall is more invariant than its situation-dependent color. As I will argue in Section 3.5, a perceptual condition can function as an intrinsic property. Examples include cases in which we perceive the lighting conditions or the location from which we are perceiving.

The account developed here is neutral on how one conceives of colors as long as there is something external and mind-independent that systematically covaries with our experience of colors. Whether or not this external, mind-independent property is referred to as the color or simply thought of as its ground is a mere terminological issue. The account is, therefore, compatible with

[12] Throughout my focus is on intrinsic properties, but the argument easily generalizes to objects and events.
[13] [Acknowledgement omitted for blind-refereeing.]
[14] For a discussion of intrinsic properties, see Weatherson 2006 and Skow 2007.

understanding colors as reflectance properties or radiation properties, as well as with so-called primitivist and naive realist views of colors. If the intrinsic color property is conceived of as a reflectance or a radiation property, then the correlating situation-dependent property will be a wavelength emittance property. A situation-dependent color property of a surface is the way its intrinsic color property manifests itself given the current lighting conditions and color context.[15]

The difference between intrinsic and situation-dependent properties parallels the difference between distal properties and proximal stimuli. A proximal stimulus is delivered by one or more situation-dependent properties. From this proximal stimulus, the perceptual system recovers information about the distal stimulus. The distal stimulus corresponds to the intrinsic property.

With these specifications in hand, we can gain a clearer understanding of situation-dependent properties. Since perceptual conditions are as external and mind-independent as intrinsic properties, and since situation-dependent properties are exclusively constituted by intrinsic properties and relevant perceptual conditions, a situation-dependent property is as external and mind-independent as an intrinsic property.

Thus, a situation-dependent property in no way depends on properties of perceivers: it depends neither on the sense organs nor on any other features of any actual or possible perceiver. This implies that for any given location, any perceiver occupying that location would, ceteris paribus, be presented with the same situation-dependent properties. Of course, perceivers differ widely with regard to which situation-dependent properties are perceptually available to them: different properties are available to cats than to humans. Moreover, as I will argue, even if the same properties are available to a perceiver at time t_1 and time t_2, she may represent some of those properties at t_1 and others at t_2. And even if she represents the same properties at t_1 and t_2, the *way* in which she perceives and represents those properties may differ.

Not only do situation-dependent properties not depend on properties of perceivers, they exist independently of anyone perceiving them. They are independent of any mind, actual or possible. Moreover, they are not modal profiles. They are actual properties in our environment constituted by actual and currently present intrinsic properties and the current perceptual conditions.

There are at least as many situation-dependent properties as there are intrinsic properties multiplied by locations. But not all situation-dependent properties are indexed to locations. Some are indexed only to illumination conditions, the gustatory context, and other location-independent perceptual conditions. As a consequence, the world is populated with a myriad of situation-dependent properties. Some are fleeting: the situation-dependent property constituted by the intrinsic white color of my office wall and the current lighting conditions ceases to exist when the lighting conditions change. Some are more stable: the situation-dependent property constituted by the size of the tree in front of my window and a particular location remains for as long as the size of the tree does not change. In short, if one fixes the intrinsic properties and the perceptual conditions, the situation-dependent properties in the environment are fixed regardless of the nature of the perceiver present (if any).

[15] For a defense of colors as intrinsic properties, see Byrne and Hilbert 2003 and Cohen 2004.

Due to perception being necessarily perspectival, a perceiving subject is necessarily perceptually related to at least one situation-dependent property. This is the case even if she is unaware of perspectival variance. Let's say, she looks at a field of green grass first at dawn and then when the sun has risen. It could seem to her as if the color of the grass is unchanged. However, the light reaching her eye has a different spectrum in the two situations: it has more red at dawn and more blue when the sun has risen. The reflected light reaching the eye is constituted by the reflection property of the surface (the intrinsic color property) and the lighting conditions (the perceptual conditions). So, a perceiver may not be aware of perspectival variance even when it is occurring.

Since situation-dependent properties are external and mind-independent properties, they can be represented and misrepresented in just the way that intrinsic properties, objects, and events can be. As a consequence, they enter into the accuracy conditions of the perceptual state. By contrast, mind-dependent appearance properties cannot be misrepresented. Of course, one can say that how things appear to a subject *S* is accurate if, and only if, things are as they appear. So, if it appears to *S* that there is something green before *S*, *S*'s experience is accurate if, and only if, there is before *S* a physical object with a green surface. But that is not to deny that how things appear to *S* is not the kind of thing that *S* can be wrong about.[16]

3.1. The Computational and Epistemic Primacy of Situation-Dependent Properties

I have argued that intrinsic and situation-dependent properties are on a par in that they are both external, mind-independent properties that we can perceive and misperceive. Are they on a par in all respects? No. They are not on a par in that situation-dependent properties are constituted by intrinsic properties and not vice versa. Moreover, for evolutionary reasons, humans are focused on intrinsic properties, objects, and events. So, at least for humans, intrinsic properties are typically more salient than situation-dependent properties.

There are further ways in which intrinsic and situation-dependent properties are not on a par. Situation-dependent properties are *computationally primary*.[17] Our primordial perceptual contact with our environment is with situation-dependent properties. We need to transcend our perspective to access intrinsic properties.[18] After all, our perceptual system operates on proximal stimuli and so on information that stems from situation-dependent properties. Via processing the system arrives at representations of intrinsic properties. So, the perceptual system recovers information about intrinsic properties via the proximal stimulus. The idea is not that there is a linear progression from the representation of the proximal stimulus to the representation of the distal property: there are complex feedback loops between representations of the proximal stimulus and the distal property (Champion et al. 2004, Todd 2004, Ullman 2007, Yamane et al. 2008, Woloszyn and Sheinberg 2009). Moreover,

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[16] In this respect, among others, situation-dependent properties differ from Shoemaker's (2006) appearance properties. While Shoemaker insists that his appearance properties are mind-independent, they are individuated by how things look and thus individuated by how we experience our environment. Therefore, they are mind-dependent on any reasonable understanding of the term.

[17] See Lappin and Craft 2000, Todd 2004, Pizlo 2008, Yamane et al. 2008, Woloszyn and Sheinberg 2009 among others. Note that these authors put the idea in terms of proximal stimuli rather than situation-dependent properties. But the point is the same. For an argument that situation-dependent properties are computationally primary, see also Cohen 2010.

[18] For a discussion of how we transcend our egocentric perspective, [reference omitted for blind-refereeing].

the fact that the visual system operates on situation-dependent properties to get at representations of intrinsic properties does not imply that we see intrinsic properties by seeing situation-dependent properties. So computational primacy of situation-dependent properties does not imply that we perceive intrinsic properties indirectly or any other form of indirect realism.

Situation-dependent properties are not only computationally primary, they are also *epistemically primary*. Perceptual knowledge of intrinsic properties depends on representations of situation-dependent properties. To explain why, consider again the subject who perceives Peacocke's trees. Representing the situation-dependent sizes of the two trees is the basis for gaining perceptual knowledge that the trees are the same size. The subject's perceptual evidence that the two trees are the same size is grounded in her perceptual evidence that the nearer tree is situation-dependently larger than the tree that is further away from her (though of course, she does not necessarily represent them under those labels). Both layers of evidence can be defeated but there is an asymmetry to note. If evidence for the situation-dependent properties is defeated, the subject's evidence for the intrinsic properties is defeated, but not vice versa. Indeed, if the subject's evidence for the situation-dependent properties is defeated, then her evidence for the intrinsic properties is undercut (and not just rebutted). While undercutting defeaters block the line of evidence from which the warrant actually arises, rebutting defeaters provide independent lines of evidence warranting the contrary conclusion.

The asymmetry of defeat is thus grounded in an asymmetry of warrant. Because the evidence for the situation-dependent property is in the line of evidence for the intrinsic property, defeat of the former entails defeat of the latter. And because the evidence for the intrinsic property is not in the line of evidence for the situation-dependent property, defeat of the former does not entail defeat of the latter. As a consequence, evidence for intrinsic properties is dependent on evidence for situation-dependent properties both with regard to defeat and warrant.

The computational and epistemic primacy of situation-dependent properties does not imply that perceivers arrive at awareness or perceptual knowledge of intrinsic properties by a conscious inference. Nor does it imply that situation-dependent properties are primary in perceptual consciousness; it is compatible with intrinsic properties taking center stage. After all, in the typical case of perception, information provided by the proximal stimulus is progressively transformed into a representation of distal, intrinsic properties whereby perspectival information can be gradually removed from the representation.[19]

I will discuss the details of perceptual conditions, intrinsic properties, and situation-dependent properties in the rest of this section. In so doing, I will distinguish situation-dependent properties from centered properties and 2D projections. I will also distinguish the situation-dependent property approach from the perceptual conditions approach—that is views on which perspectival variance is explained in terms of seeing intrinsic properties under specific perceptual conditions. But first, it will be helpful to show how situation-dependent properties fit into the framework introduced in Section 2.

[19] See Murray et al. 2006, Arnold et al. 2008, Storrs and Arnold 2013 among others and Morales, Bax, and Firestone 2020 for criticism.

3.2. Representing Perceptual Variance and Invariance

Acknowledging situation-dependent properties allows us to recognize that subjects can be perceptually related to two kinds of external, mind-independent properties: intrinsic and situation-dependent properties. How does introducing situation-dependent properties help with analyzing perceptual consciousness of variance and invariance? To answer this question, I will assume a representationalist view of consciousness—that is, a view on which consciousness is grounded in representational content.[20] If perceivers represent situation-dependent properties, then appearance properties can be understood as grounded in these representations. Similarly, constancy properties can be understood as grounded in representations of intrinsic properties. So, while representations of intrinsic properties ground perceptual consciousness of invariance, representations of situation-dependent properties ground perceptual consciousness of variance.

	invariant property	**variant property**
external, mind-independent property in the environment	intrinsic property	situation-dependent property
mind-dependent property of consciousness	constancy properties: grounded in representations of intrinsic property	appearance properties: grounded in representations of situation-dependent property

Analyzing the experience of perceptual variance as grounded in representations of external, mind-independent properties breaks with a long tradition—still alive today—of arguing that variant properties are simply properties of experience.[21] This tradition can be traced back to Hume, who writes: "[T]he table, which we see, seems to diminish, as we remove farther from it: but the real table, which exists independent of us, suffers no alteration: it was, therefore, nothing but its image, which was present to the mind" (1758/2007, p. 152). Hume argues that what is directly present to the mind is an idea. The view that the object of perception is not (or not always) an external, mind-independent object, property-instance, or event in our environment has motivated phenomenalism, sense-data theories,

[20] For a defense of such a view, see [reference omitted for blind-refereeing].

[21] For a critical discussion of accounts that analyze perspectival variance in terms of representing perspectival properties, see Lande 2018. Lande presents his view as an alternative to such views, but his view is arguably an instance of this general strategy: implicit in his view is the assumption that the perceptual system representing perspectival properties. It should be noted that in his critical discussion of the perspectival properties approach, Lande assumes that perspectival properties are 2D projections. As I will argue, analyzing perceptual variance in terms of 2D projections faces insurmountable problems. A view on which perspectival properties are understood as situation-dependent properties does not face those problems.

and indirect realism.[22] While the views in this tradition differ along several dimensions, they share the idea that what is directly present to our mind is not something external and mind-independent.

Against this tradition, I argue that not only are there two kinds of invariant properties, there are also two kinds of variant properties: one is a property in the environment, the other of consciousness. Intrinsic and situation-dependent properties are both objective properties out in the world regardless of whether anyone perceives them. I will discuss these matters in more detail in Section 4.

3.3.Situation-Dependent Properties beyond Representationalism

While I am here taking for granted a representational view, situation-dependent properties can be acknowledged without any commitment to any form of representationalism.[23] I will illustrate how this would go for non-representationalist views.

The naive realist could analyze appearance properties in terms of awareness of situation-dependent properties, with constancy properties analyzed in terms of awareness of intrinsic properties. In short:

	invariant property	**variant property**
external, mind-independent property in the environment	intrinsic property	situation-dependent property
mind-dependent property of consciousness	constancy properties: explained in terms of awareness of intrinsic property	appearance property: explained in terms of awareness of situation-dependent property

It is attractive for naive realists to take on board situation-dependent properties: they account for the fineness of grain of perceptual consciousness. After all, if a subject perceives situation-dependent properties in addition to intrinsic properties, then her perspectival perceptual consciousness can be explained in terms of awareness of mind-independent properties in her environment. Thus, acknowledging awareness of situation-dependent properties allows the naive realist to explain more aspects of perceptual consciousness within her radical externalist framework than she would otherwise have the resources to do.

Further, if one acknowledges situation-dependent properties, one can say that the world is populated with a myriad of situation-dependent properties to which one can be perceptually related.

[22] Price (1932) famously argues that sense-data are mind-dependent, nonphysical objects. Jackson (1977) defends the existence of nonphysical sense-data based on linguistic analysis. He interprets the claim "object *x* looks red" as having the underlying form, "Subject *S* sees a red sense-datum belonging to *x*." He has since distanced himself from this unabashed sense-data view. See his 1998.

[23] For a defense of representationalism against the naive realist challenge, see [reference omitted for blind-refereeing].

This allows one to explain changes in perceptual consciousness even while the environment remains the same by arguing that the perceiver is aware of different situation-dependent properties in her environment before and after the change in perceptual consciousness.[24]

3.4. Situation-Dependent Properties and Alternative Accounts of Perspectival Properties

I have presented the core idea of situation-dependent properties and their relation to intrinsic, appearance, and constancy properties. In the rest of this section, I will develop the view further by contrasting it with alternative ways of analyzing perspectival properties, and by discussing several questions concerning the metaphysical structure of situation-dependent properties.

Are situation-dependent properties 2D projections? In response: no. Situation-dependent properties are not projections. This is obvious in the case of the properties we perceive in audition, olfaction, taste, touch, proprioception, proprioception, temperature, and pressure perception, and most other sensory modalities. Even in the case of seeing spatial properties, situation-dependent properties are not projections. In the typical case of perception, situation-dependent properties are 3D. Notable exceptions are cases in which the relevant intrinsic property is 2D. But even in such cases, while being 2D, the situation-dependent property is not a 2D projection.

So, we can distinguish the situation-dependent property approach from a *2D projections approach*.[25] On a 2D projections approach, perspectival properties are 2D projections of an object's properties onto a frontal plane located between the retina and the perceived object. There are at least three problems with this approach. One is that if it were to work, it would work only for visual perception. The second is that even if we focus only on vision, the approach faces problems. If it were to work, it would be feasible only for spatial properties. It is a non-starter if the goal is to account for the variance and invariance of color perception. Third, even if we focus only on seeing spatial properties, the 2D projections approach faces problems. While we can be aware of 2D projections—and often are when we take a realistic painter's point of view—we are not aware of 2D projections in the typical case of perception even if we are aware of perceptual variance. So, if the reason for appealing to 2D projections is to account for the variant aspect of perceptual consciousness, then awareness of 2D projections will not meet the challenge. The situation-dependent property approach does not face any of these problems.

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A second question one might ask is whether situation-dependent properties are simply centered properties—that is, functions from centered worlds to extensions, where a centered world is a world centered on a perceiver. In response: in the case of *spatial* perception and with certain qualifications, situation-dependent properties can be analyzed as what constitutes a centered world and so as centered properties. Similarly, in the case of spatial perception, situation-dependent properties can be analyzed as what constitutes Peacocke's scenes.[26] However, the distinction between centered worlds (or scenes)

[24] See Genome 2014 and Fish 2019, for a naive realist view that draws on situation-dependent properties.
[25] See Noë 2004, for an account of perspectival properties as 2D projections.
[26] As Peacocke (1992, p. 64) writes, a scene is "the volume of the real world around the perceiver at the time of the experience, with an origin and axes in the real world fixed in accordance with the labeling of the scenario." A scenario, as he understands

and uncentered worlds is helpful only to analyze the difference between intrinsic spatial properties and the correlating situation-dependent properties. As soon as we move beyond spatial perception, centered worlds are not helpful in analyzing situation-dependent properties. After all, the difference between intrinsic colors and the correlating situation-dependent properties cannot be analyzed in terms of centered and uncentered worlds. The perceptual conditions relevant for perceiving intrinsic colors are lighting conditions, and those are the same in a centered and an uncentered world. A situation-dependent color property is part of the centered world in the same way that it is part of the uncentered world. Therefore, the distinction between intrinsic color properties and the correlating situation-dependent properties cannot be analyzed in terms of the difference between uncentered and centered worlds. The same holds for sounds as well as for taste, smell, temperature, and pressure properties. Moreover, in contrast to centered worlds, the notion of situation-dependent properties does not require any appeal to possible worlds semantics and can thus be accepted independently of any commitment to such a theoretical framework.

In short, centered worlds add only information indexed to the spatial position of the perceiver. They do not information that distinguishes intrinsic properties from situation-dependent properties when it comes to perceptual conditions such as lighting conditions, acoustic conditions, the gustatory context, the color context, and other such perceptual conditions.

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A third question is whether the situation-dependent property approach implies that when we represent a situation-dependent property, we necessarily represent the perceptual conditions that constitute that property (e.g., the lighting conditions, the distance and angle to the perceived object, the acoustic conditions, etc.).

In response: no. While a situation-dependent property is a relational property, we can represent such a property without representing the relata that constitute it. Moreover, we can represent a situation-dependent property as if it were a monadic property. So, we can represent it without representing that it is a relational property. This holds more generally: When I eat a piece of cake, I can enjoy its taste while being oblivious of many (or even all) of its constituents. Similarly, I can experience gravity without experiencing its relata and without being aware that gravity is a relational property.

So, we can be aware of a property while being oblivious of its constituents and even of the fact that it has constituents. To put the same point in terms of representation rather than awareness: we can represent a property while neither representing its constituents nor that it has constituents. It follows that one can represent a situation-dependent property while representing neither the intrinsic property nor the perceptual conditions that jointly constitute it. Moreover, one can represent a situation-dependent property without representing it as a relational property.

The situation-dependent property approach thus differs fundamentally from what we can call the *perceptual conditions approach*. On that view, perceivers are aware of intrinsic properties and the perceptual conditions (distances, slants, lighting conditions, acoustic conditions, etc) under which those

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it, is a way of locating objects, properties, and relations in relation to a labeled origin and axes. The elements of a scene can be understood as situation-dependent spatial properties. For a discussion of centered worlds and centered properties, see Lewis 1979 and Liao 2012.

intrinsic properties are perceived. This approach has wide support among philosophers (see Tye 1995, Smith 2002, Siewert 2006, Briscoe 2009, Bennet 2009, Jagnow 2012, Hopp 2013, Lande 2018). The best-known scheme for visually representing distance and slant is Marr's 2½-D sketch (see Marr 1982, pp. 275-9). For each patch of a visible surface (up to a certain resolution), the 2½-D sketch specifies (i) the distance and direction of that patch from one's viewpoint, and (ii) the patch's orientation relative to one's line of sight, thus creating a depth map.

There are at least three problems with this approach. First, it is not necessary to perceive or be aware of perceptual conditions to perceive the *effects* of those perceptual conditions on perceived particulars. Second, there is often no sense in which we represent or are aware of the current perceptual conditions.[27] Third, there are many perceptual conditions that are impossible or at the very least difficult to be aware of directly via perception. Examples include reverberation properties, diffusion properties, reflection properties, and other acoustic conditions that affect how sounds are presented to us. There are perceptual conditions that we can perceive directly, such as slants, distances, and lighting conditions, but frequently we perceive only the effects of these perceptual conditions without any awareness of the perceptual conditions themselves.[28] It is important to take seriously that perception is a lowly faculty that we share with animals who are not capable of engaging in such intellectually sophisticated activity.

The situation-dependent property approach does not face any of these problems: a subject who represents a situation-dependent property need neither represent nor be in any way aware of the perceptual conditions that constitute that property. In contrast to the perceptual conditions approach, it thus does not over-intellectualize perception. Moreover, it accommodates more cases, namely all those in which a perceiver neither represents nor is in any way aware of the perceptual conditions. It acknowledges that we can perceive situation-dependent properties, and so the effects of perceptual conditions, without representing those perceptual conditions. The perceptual conditions approach works for cases in which we are aware of perceptual conditions. But there are too many cases in which we are not so aware for the account to be feasible as a general account of perspectival variance.

An example of perceiving an object at a distance will help illustrate the advantage of my approach over the perceptual conditions approach. We are highly sensitive to changes in situation-dependent size properties. We are excellent at perceiving whether an object far away is moving closer or staying put; yet most of us are terrible at accurately perceiving distance.[29] We are not good at perceiving distances of objects reasonably close; and terrible at perceiving distances of objects far

[27] For discussion, see for example Bannert and Bartels (2017), Barbur and Spang (2008), Fiser and Biederman (2001), Fleming (2017), Fleming and Storrs (2019), Neidhardt, Schneiderwind, and Klein (2022), Norman and Akins, et al. (2014), Lo and Lai (2022), Quinlan and Allen (2018).

[28] See Blauert (1997), Barbur, J.L. and K. Spang (2008), Bücklein (1981), Fleming (2014), Lo and Lai (2022), Mclaughlin (2016), Neidhardt, A., C. Schneiderwind, and F. Klein (2022), among others.

[29] For discussion, see Arterberry, Craton, and Yonas (1993), Arterberry and Yonas (1988), Beverley and Regan (1979), Bower, Broughton, and Moore (1970), Cutting and Readinger (2002), Cutting, Wang, et al (1999), DeLucia (1991), DeLucia and Warren (1994), Johansson (1964), Kaufmann, Stucki, and Kaufmann-Hayoz (1985), Readinger and Chatziastros (2002), Regan and Hamstra (1993), Todd (1981), and Zahorik (2021) among others.

away.[30] A similar point holds even if one argues that one judges rather than perceives distances. After all, even if one judges such matters, the judgment is based on perception.

The suggested approach explains these facts. By representing situation-dependent properties, one represents a property that is highly sensitive to the actual distance between one's location and the perceived object. After all, the relevant situation-dependent property is constituted by this distance and the perceived intrinsic properties. So, any change in distance between the perceiver and the perceived object will entail a change in the perceived situation-dependent property. The visual system can then extrapolate the actual distance magnitude. Lots of mistakes can happen in this process of extrapolation. This explains why we are terrible at accurately perceiving distances while being excellent at detecting the effects of changes in differences. The relevant effects to which we are highly sensitive are changes in distances between ourselves and perceived particulars as they manifest in situation-dependent properties: we do not get distance without extrapolation, but by perceiving situation-dependent properties we perceive the effects of changes in distance.

3.5.Further Questions and Objections

When we represent a situation-dependent property, do we represent it *as* a situation-dependent property? In response: no, not necessarily. While human perceivers can typically tell which of an object's properties are intrinsic and which are situation-dependent (though of course not under those labels), there are cases in which perceivers cannot tell whether a perceived property is intrinsic or situation-dependent. Consider again Peacocke's trees. In extreme cases, the subject may be aware only that the trees are somehow the same size and somehow different in size. In such a case, the perceptual content will be the following:

$Tree_1$ and $Tree_2$ are the same size', $Tree_1$ and $Tree_2$ are different in size".

The single primed property tracks the intrinsic sizes of the two trees and the double primed property tracks their two situation-dependent size properties. While the properties represented differ in kind and the representational content marks them *as* different, it does not mark *how* they are different—it does not explicitly label them, for example, as situation-dependent and intrinsic properties. Thus, in contrast to the perceptual conditions approach, the situation-dependent property approach is general enough that it can easily account for cases in which a perceiver cannot tell whether a perceived property is variant or invariant and in which she is oblivious to the perceptual conditions.

As this discussion shows, intrinsic and situation-dependent properties are different in kind. So, representing both properties does not yield content that is inconsistent. This is the case even if both properties are attributed to the same object. The situation-dependent properties approach thus satisfies the *consistency desideratum*.

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But what about a case in which we do represent or are aware of a perceptual condition? In response: in such a case, the perceptual condition functions as an intrinsic property. That perceptual

[30] The point here is about distance magnitudes rather than distance units. For a discussion of magnitudes, see Hibbard et al. 2017 and Peacocke 2019, Chapter 2.

condition can at the same time function as a perceptual condition that constitutes (jointly with a different intrinsic property) a situation-dependent property. For example, I can perceive the distance between myself and a perceived object. In this case, the distance functions as an intrinsic property. That distance can at the same time function as a perceptual condition that constitutes (jointly with the intrinsic size of the object) the situation-dependent size of that object.

Similarly, I can be perceptually aware of the current lighting condition, in which case it functions as an intrinsic property. At the same time, I can perceive a situation-dependent property that is constituted by an intrinsic color property and that lighting condition—where the lighting condition functions as the perceptual condition.

In short, a perceptual condition can function as both an intrinsic property and as a property that jointly with a different intrinsic property constitutes a situation-dependent property. In this sense, perceptual conditions are understood functionally. As I will argue shortly, intrinsic properties and situation-dependent properties are functional in analogous ways. We can perceive a situation-dependent property and that same situation-dependent property (now functioning as an intrinsic property) can jointly with perceptual conditions constitute a different situation-dependent property.

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Now, one might question the situation-dependent properties approach at a deeper level and ask: why say that a white wall illuminated by red light is situation-dependently red? Why not say that it looks the way red walls look under normal viewing conditions? Or to avoid appeal to how things look, why not say it has a property that is characteristic of red objects under normal viewing conditions? In response: there are no normal viewing conditions. More generally, there are no normal perceptual conditions.

Of course, if it is pitch dark, we cannot see the color of objects. If there is loud ambient noise, we cannot hear what is playing on the radio. While there are such breakdown conditions, there is a wide range of perceptual conditions under which we have no trouble perceiving intrinsic properties. This holds for all perceptual modalities. [31]

One of the advantages of the situation-dependent properties approach is that it does not require appealing to normal perceptual conditions and acknowledges the fact that we have no problem perceiving intrinsic properties under a wide range of perceptual conditions. Thus, the approach satisfies the *range desideratum*.

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As argued, we can distinguish the intrinsic smell of coffee from the way coffee smells in the context of freshly baked cake and the context of the smell of a cigarette. Now, take a situation in which a subject detects the smell of coffee but there is no cake. Does the smell of coffee have the situation-dependent property constituted by the intrinsic smell of coffee and the smell of freshly baked cake?

In response: no. Situation-dependent properties are not modal properties. They are *actual* properties in the environment that are constituted by actual, currently instantiated intrinsic properties and the actual, currently obtaining perceptual conditions. If there is no cake in a perceiver's

[31] For discussion, see Hardin 1988 and O'Callaghan 2010, 2019. Among many others, Sellars's (1977) account of perception relies on the idea of normal viewing conditions.

environment, then there is no situation-dependent property constituted by the intrinsic smell of coffee (which is present) and the smell of cake.

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Consider a case in which an intrinsic and a situation-dependent property look exactly alike. An example of such a case is when one perceives the rim of a coffee cup from straight above. One could object that given such cases, by contrast to what the situation-dependent property approach holds, not all cases of perception involve perceiving situation-dependent properties. In response: it is true that there are perceptual conditions under which a situation-dependent property and the intrinsic property that constitutes it can look. However, even in such cases, they are metaphysically distinct. After all, the situation-dependent property is constituted by the intrinsic property and the perceptual conditions, while the intrinsic property is not constituted by the situation-dependent property of which it is a constituent. How they look is not relevant since neither intrinsic nor situation-dependent properties are individuated by their looks. The same holds for sound, smell, touch, taste, proprioception, temperature, and pressure perception, to list just a few sensory modalities.

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If not by their looks, how are situation-dependent properties individuated, precisely? Can the same situation-dependent property be yielded by distinct intrinsic properties given suitable perceptual conditions? That is, could distinct sets of intrinsic properties and perceptual conditions yield the same situation-dependent property? Take two distinct intrinsic properties IP_1 and IP_2 and two distinct perceptual conditions PC_1 and PC_2. Could IP_1 and PC_1 constitute a situation-dependent property SDP_1, and IP_2 and PC_2 constitute a situation-dependent property SDP_2, such that SDP_1 and SDP_2 are metaphysically the same?

In response: no. In analogy to structured propositions, situation-dependent properties can be understood as structured properties.[32] If a situation-dependent property SDP_1 is constituted by an intrinsic property IP_1 and a perceptual condition PC_1, this means that SDP_1 is a structured complex containing IP_1 and PC_1 as constituents. Two such structured complexes are identical only if they are constituted by the same intrinsic property and perceptual conditions. And given how the relevant sort of structural complexes are standardly understood, complexes are identical if and only if their corresponding parts are identical. So, if SDP_1 is constituted by IP_1 and PC_1 and SDP_2 is constituted by IP_2 and PC_2, then $SDP_1=SDP_2$ if and only if $IP_1=IP_2$ and $PC_1=PC_2$.[33] Of course, the two non-identical situation-dependent properties can look the same. But again, how things look is not relevant since situation-dependent properties are not individuated by how they look.

The issue here is similar to Twin-Earth cases. The thirst-quenching liquid on Twin-Earth that runs in rivers, flows out of faucets, and is called 'water' by the inhabitants of the planet is not H_2O, but

[32] For discussion, see King 2015.

[33] An alternative would be to individuate situation-dependent properties by their functional role in the perceptual system, where this role mentions neither intrinsic properties nor perceptual conditions. On this approach, one situation-dependent property could be realized by different pairs of intrinsic properties and perceptual conditions. Thanks to Karen Bennett, Ted Sider, and Thomas Sattig for helpful discussions on this set of issues.

a liquid with a radically different chemical formula, namely XYZ.[34] Similarly, there is a superficial sameness but an underlying difference in metaphysical structure between two situation-dependent properties that look the same but are constituted by distinct intrinsic properties and perceptual conditions. While situation-dependent properties are structured properties, neither their mereological parts nor the fact that they are complex structured properties need to be revealed to a perceiver. As argued earlier, they can be perceived as if they were monadic properties.

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Finally, one might ask: if a situation-dependent property SD1 is constituted in relation to a location L_1, does a perceiver have to occupy L_1 in order to perceive SD1? In response: yes. To perceive a situation-dependent property constituted in relation to location L_1, a subject must indeed occupy L_1. In this sense, access to a specific spatial situation-dependent property is restricted in a way that access to an intrinsic spatial properties is not. However, it is not restricted in ways that render them mind-dependent. After all, any perceiver occupying that location could in principle perceive that situation-dependent property.

4. Perceptual Consciousness of Variance and Invariance

So far I have argued that appearance properties are best understood as grounded in representations of situation-dependent properties. Similarly, constancy properties are best understood as grounded in representations of intrinsic properties. In this section, I will detail this account of perceptual consciousness and will address a series of questions about ways of perceiving, the relation between appearance properties and situation-dependency properties, and the constancy mechanism of perceptual systems.

But first, one of the many benefits of the proposed view is that explaining perceptual consciousness of variance and invariance in terms of representations of properties in our environment demystifies these aspects of perceptual consciousness. According to the suggested view, two perceptions of the same object from different viewpoints differ phenomenally because they represent different situation-dependent properties. Consider again Peacocke's trees. A subject who sees the trees and is aware of their variant and invariant properties represents two distinct properties: an intrinsic and a situation-dependent property. While the representation of the former grounds the sense in which the trees look the same size, the representation of the latter grounds the apparent difference in size. By grounding appearance properties in representations of situation-dependent properties and constancy properties in representations of intrinsic properties, the situation-dependent properties approach explains how perceptual consciousness may be characterized by both perceptual variance and constancy. So, it satisfies the *dual aspect desideratum*.

But the view allows that we might only represent situation-dependent properties and thus that our perceptual consciousness might only be characterized by appearance properties (and no constancy properties). If one accepts that not all aspects of representational content are revealed in perceptual

[34] See Putnam 1975. Burge (1982) extends Putnam's conclusion from linguistic reference to mental content, arguing that the inhabitants of Earth and Twin-Earth instantiate mental states with different contents when referring to the substance that runs in rivers and flows out of faucets.

consciousness, the suggested view allows, moreover, that we can be aware only of situation-dependent properties or only of intrinsic properties. After all, representations of intrinsic and situation-dependent properties may be revealed in consciousness, but they need not be. In short, the situation-dependent properties approach explains how perceptual consciousness can be characterized primarily by constancy properties, only by appearance properties, or by both appearance and constancy properties.

4.1.Ways of Perceiving and Modes of Presentation

How can the situation-dependent properties approach explain cases in which our perceptual consciousness changes even as the environment remains exactly the same? In response: there are at least two types of cases to consider here. One is due to a change in *which* particulars in the environment are represented, where those particulars could be instances of situation-dependent properties or intrinsic properties, objects, events, or any combination of such particulars. The other is due to a change in *ways* of perceiving particulars in our environment—that is, a change in how the same particulars are represented.

To explain the first case, we need to introduce a distinction between which particulars are *available to be perceived* and which are in fact *perceived*. In a typical case of perception, the perceiver represents only a small fraction of the multitude of particulars in her environment that are available to be perceived. Which particulars she represents can change over time even as the environment remains unchanged. Distinguishing which particulars are available to be perceived from which are in fact perceived allows us to explain changes in perceptual consciousness in terms of which environmental particulars are represented. If a perceiver's perceptual consciousness changes even as there are no changes in her environment, this can be explained by her representing some environmental particulars before the change and others after the change.

In the second kind of case, there is a change in perceptual consciousness that is not due to differences in *which* environmental particulars are represented, but rather to a change in the *way of perceiving* the very same environmental particulars. What are ways of perceiving? There are several candidate answers.

One answer is to analyze ways of perceiving in terms of the perceptual capacities by means of which the environmental particulars are discriminated and singled out. The same environmental particular can be discriminated and singled out by a range of different perceptual capacities. Take a perceiver who discriminates and singles out the same particular α at time t_1 and time t_2. At t_1 she discriminates and singles out α by employing one perceptual capacity; at t_2 she discriminates and singles out α by a different perceptual capacity.[35] This difference in the perceptual capacity employed yields a difference in how she is aware of α and thus a difference in her perceptual consciousness between t_1 and t_2.

An example will help. Consider Florence, who sees a field of flowers that are many different shades of red and yellow. First, she employs her capacity to discriminate between red and yellow and thus is aware of a field of red and yellow flowers. Then, she pays more attention to the flowers and in

[35] For a development of this view, see [reference omitted for blind-refereeing].

doing so employs her capacity to discriminate between crimson, scarlet, and vermilion, and between lemon, mustard, and chartreuse, and So is aware of the colors in a more fine-grained way. Both times she discriminates and singles out the same mind-independent color properties. But the *way* in which she discriminates and singles them out differs. The difference in perceptual capacities employed yields a difference in perceptual consciousness.

On a Fregean view, such changes can be explained in terms of modes of presentation. The same environmental particular can be represented under a range of different modes of presentation. Consider again Florence, who discriminates and represents the very same environmental particular α at time t_1 and time t_2 but there is a change in her consciousness between t_1 and t_2. This change in consciousness can be explained as follows: α is represented under one mode of presentation at t_1 and under a different mode of presentation at t_2. If one argues that modes of presentation are constituted by the perceptual capacities employed, then the perceptual capacity and the mode of presentation analyses are two sides of the same coin. [36]

What individuates these modes of presentation? The modes of presentation are constituted by the perceptual capacities employed and the environmental particulars, if any, thereby singled out. The perceptual capacities in turn are individuated by what they function to single out, namely mind-independent particulars. So ultimately, the modes of presentations are individuated entirely by mind-independent particulars. Thus, bringing in modes of presentation does not violate the externalist commitments of the proposed view. Objects, events, and property-instances are all on a par in that each can be the mind-independent particular that is singled out by a perceptual capacity and thereby represented under a mode of presentation.

So, any particular, be it an object, event, or an instance of either a situation-dependent or intrinsic property, can be represented in different ways depending on which perceptual capacity is used to single out the relevant particular. That is to say that there are many different correct ways to represent the same particular.

Consider Arriane who is looking at an array of dots. She first sees them as grouped in rows and then as grouped in columns. The phenomenal character of her perceptual state shifts accordingly. On the suggested view, she employs a different perceptual capacity when he sees them as grouped in rows than when he sees them as grouped in columns. In the first case, she employs her perceptual capacity to discriminate rows; in the second, her capacity to discriminate columns. In both cases, she discriminates and singles out the same particulars in her environment, but she represents them in different ways. This difference in how she represents them grounds the difference in her perceptual consciousness. What is out in the world are just the dots. By employing one kind of perceptual capacity, she perceives these dots as grouped in rows. By employing a different perceptual capacity, she perceives the same dots as grouped in columns.[37]

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[36] For details of how this works, see [reference omitted for blind-refereeing].

[37] An alternative approach, fully in the spirit of the view I have developed, would be to argue that the groups of rows and columns are themselves in the environment. This alternative approach would be more radically externalist than I am willing to go. To explain why would lead us too far astray. Suffice it to note that groups of this kind (and perhaps groups of any kind) are arguably not particulars in the environment. It is always minds that group and classify. While some particulars in the environment are more similar to others, they are not classified with other similar things independently of a mechanism doing the classifying or grouping. [Acknowledgement omitted for blind-refereeing.]

This is just one possible analysis of ways of perceiving. The situation-dependent properties approach can be accepted even if ways of perceiving are understood differently. What is important here is that differences in appearance properties that are not due to differences in which situation-dependent properties are represented can be explained in terms of differences in the way in which those situation-dependent properties are perceived and represented. The same holds for constancy properties and the intrinsic properties that they track. Shortly, I will exploit this account to explain cases in which human vision systematically underestimates the situation-dependent size of distant objects and similar cases of systematic misrepresentation.

In sum, in Section 3, I distinguished between appearance properties, situation-dependent properties, and representations of situation-dependent properties. Similarly, I distinguished constancy properties, intrinsic properties, and representations of intrinsic properties. In this section, I have shown the need to distinguish moreover which particulars are *available to be perceived* from which are in fact *perceived*; and also *which* particulars are represented from the *way* in which those particulars are perceived and represented. This allows us to explain how our perceptual consciousness can change even as the environment remains exactly the same.

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One might ask: if one allows for ways of perceiving, why not have them do all the work of accounting for perspectival variance? In response: I am acknowledging the role of ways of perceiving, however, they cannot do all the work as traditional approaches have it.[38] It is important to distinguish the objective and subjective aspects of perceptual variance. More specifically, it is important to distinguish the aspect of perspectival variance that is due entirely to mind-independent factors in the environment from the aspects that are due to ways in which we perceive the environment. By distinguishing ways of perceiving and modes of presentation, on the one hand, from situation-dependent properties on the other, an externalist account of at least some aspects of subjective perspectives is secured. Coupled with the account of perceptual capacities, the situation-dependent properties approach can acknowledge the mind-dependent aspects of subjective perspectives without compromising its externalist commitments.

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Now, not all elements of consciousness are due to representing environmental particulars, even if one acknowledges ways of perceiving such particulars. Examples include after-images and phosphenes. How can the situation-dependent properties approach account for such cases?

In response: this is where the situation-dependent properties approach reaches its explanatory limit. But that is not a problem for the view. Its goal is not to explain all aspects of consciousness as grounded in representations of environmental particulars. Its goal is more modest. It is to further an externalist account of perceptual consciousness and more generally of perspectival consciousness, by explaining as much of consciousness as possible in terms of representations of objects, events, and property-instances in our environment. More specifically, the goal is to explain the variant aspect of

[38] For a recent development of this approach in a naïve realist framework, see French and Phillips 2022.

perceptual consciousness in the same way as we can explain the invariant aspect of perceptual consciousness, namely in terms of representations of external, mind-independent properties.[39]

4.2.Perspectival Variance and the Constancy Mechanism

Appearance properties do not always change in direct proportion with changes in situation-dependent properties. For example, the constancy mechanism of the human visual system downplays perspectival variance while highlighting invariance. How can the situation-dependent properties approach explain this primacy of constancy? Building on the arguments in the previous section, it can be analyzed in terms of the ways in which situation-dependent and intrinsic properties are represented. To explain this in more detail it will be helpful to begin with some details of how the constancy mechanism works.

The primacy of constancy was first observed by Thouless (1931, section 22): the human visual system has the tendency to regress to intrinsic properties. In a situation in which we are exposed to ever-changing situation-dependent properties while being interested primarily in intrinsic properties, our perceptual system focuses on intrinsic properties. In such cases, the visual system attenuates the actual degree of variance in the environment.[40]

Since Thouless, this phenomenon has been researched extensively. The perceptual system evolved to track invariance (in humans at least).[41] The visual system aims at overcoming its perspectivalness to represent invariant properties in its environment. The visual system operates on the proximal stimulus with a focus on arriving at the representation of the distal property.[42] In other words, while the input of the visual system is information regarding situation-dependent properties, the system is focused on recovering information about intrinsic properties from the proximal stimulus.

Due to the mismatch of processing power and the amount of information that needs to be processed, most perceptual systems make shortcuts and thus have biases. The visual system directs computational resources where they are most needed: computational resources are allocated towards representing intrinsic properties. As a consequence, not all changes in situation-dependent properties get represented, despite the fact that the perceptual system operates is initially operating on information about situation-dependent properties.

One consequence of this constancy mechanism is that human perceivers often fail to notice situation-dependent properties: it is as if we see through them and are aware only of intrinsic properties. For the most part, intrinsic properties are more salient to us than situation-dependent properties. So, although we are perceptually related to and represent situation-dependent properties, they often recede to the background of our perceptual consciousness.

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[39] Elsewhere, I explain phosphenes and afterimages in terms of employing perceptual capacities. But one can accept everything in this paper without accepting this account of such unusual aspects of consciousness. See [reference omitted for blind-refereeing].

[40] See Hardin 1988, Murray et al. 2006, Arnold et al. 2008, Hill and Bennett 2008, Storrs and Arnold 2013, Masrour 2015, and Hill 2016 among others. See Morales, Bax, and Firestone 2020 for critical discussion.

[41] However, contra Burge (2010), it did not arguably evolve to accurately represent such invariant properties. See Springle 2019, for discussion.

[42] For discussion, see Palmer 1999, in particular, Chapter 7 on spatial constancy and Chapter 3 on color constancy. See also Frisby and Stone 2010.

How can these phenomena be explained in terms of how we represent situation-dependent properties and intrinsic properties? In at least some cases, we represent situation-dependent properties more coarsely than intrinsic properties. One way of analyzing this is to say that the perceptual capacities by means of which we single out situation-dependent properties are, in at least some cases, less fine-grained than those by means of which we single out intrinsic properties. So, two distinct situation-dependent properties can be singled out by employing the very same perceptual capacity.[43] In this way, the situation-dependent properties approach can explain cases in which the perceptual system prioritizes perceptual invariance and thus satisfies the *primacy of constancy desideratum*.

It should be noted here that recent evidence suggests that vision science and contemporary philosophy have exaggerated the primacy of perceptual constancy. As Morales, Bax, and Firestone (2020) discuss, perspectival properties enter and persist in perceptual consciousness far longer and in more sustained ways than traditionally assumed. Even after the perceiver has recovered information about distal properties in her environment from the proximal stimulus, perspectival properties guide attention, selection for action, and representations at higher levels of visual processing.[44] Such findings provide empirical support for the situation-dependent property view.

4.3. Illusions, Hallucinations, and Situation-Dependent Properties

A perceptual state is the mental state a subject is in when she perceives particulars in her environment. So a perceptual state is to be contrasted from the state one is in when one suffers an illusion or a hallucination. In paradigmatic cases of illusion, it seems to one that there is a property-instance, where there is no such property-instance. In paradigmatic cases of hallucination, it seems to one that there is an object, where there is no such object.[45] In extreme cases, a hallucination or illusion may be subjectively indistinguishable from a perception. So it may seem to the hallucinating subject that she is perceiving.

Consider a case in which one is not perceptually related to anything in the environment yet it seems to one that one is perceiving. Does one represent situation-dependent properties in such a case of hallucination? If not, how can a hallucination be subjectively indistinguishable from a perception?

In response, when one hallucinates an elf, one has a seeming point of view in relation to the elf. One can distinguish between the way the elf seems to fill out space from the way it seems to be presented given one's location. So, the distinction between intrinsic and situation-dependent properties holds for cases of hallucination just as it holds for cases of accurate perception. It is not possible to hallucinate an object such that the hallucination is subjectively indistinguishable from a perception without hallucinating it from a seeming perspective. So, in hallucination, at least those that are indistinguishable from perception, we have a hallucinatory point of view and thus we hallucinate situation-dependent properties.

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[43] This idea is developed in detail in [reference omitted for blind-refereeing].

[44] It should be noted that Morales, Bax, and Firestone (2020) assume that perspectival properties are 2D projections—an idea I reject. However, with minor adjustments, their findings hold for perspectival properties that are 3D properties, such as situation-dependent properties.

[45] Many cases of illusion and hallucination are more complex. See Macpherson and Batty 2016 for a discussion of many variations of illusions and hallucinations.

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Now, consider a case, in which a perceiver sees a uniformly white wall, that unbeknownst to her, is illuminated by red light and it seems to her to be uniformly intrinsically red. How does the situation-dependent property approach analyze such cases? In response: in such a case, the perceiver mistakes a situation-dependent property for an intrinsic property. More specifically, she misrepresents what happens to be a situation-dependent property as an intrinsic property—though of course typically not under that label.

In philosophy, due to the influence of Hume, such cases have traditionally been analyzed as illusions. They are not analyzed as illusions by vision scientists, however, and it is important to distinguish between illusions and mere misperceptions. It should be noted that on some representationalist views, the simple fact that a property is misrepresented entails that the experience is illusory. This is an unfortunate use of the term "illusion" since it lumps psychological illusions (such as the Müller-Lyer illusion) into the same category as cases in which one is perceptually related to a white wall illuminated by red light and is aware of the situation-dependent red property (though of course not under that label).

To explain why the two are different in kind, consider first the Müller-Lyer illusion. The reason why one perceives one stick as longer than the other despite the fact that they are the same length is not due to representing two different situation-dependent properties. The reason for the illusion is rather the Gestalt principles of convergence and divergence: the lines at the sides lead the eye either inward or outward, thereby creating a false impression of length. So, we perceive the lines as differing in length due to how the perceptual system processes the information provided by the environment.

Now let's consider the second kind of case. In cases such as Peacocke's two trees, the size information provided by the environment regarding one tree differs from the size information regarding the other. We perceive trees as situation-dependently different in size due to a difference in the information provided by the environment. Similarly, if you perceive a white wall illuminated by red light to be intrinsically white and situation-dependently red (though typically not under those labels), then you are accurately perceiving your environment. The relevant information is provided by the environment and there is nothing illusory about seeing the wall to be situation-dependently red.

If you perceive the wall to be intrinsically red, however, you are making a mistake. The situation-dependent property approach explains why there is nothing illusory about such cases and shows precisely what mistake the perceiver has made. Moreover, the approach accounts for why it is that we have some reason to believe that the wall is red. After all, the wall is situation-dependently red. We get something right: there is an external, mind-independent red property. However, contrary to how things seem to us, it is not an intrinsic property. If a subject sees a white wall that unbeknownst to her is illuminated by red light and the wall seems red to her, this does not entail that her perception is illusory. It is a simple case of mistaking a situation-dependent for an intrinsic property. Specifically, she is mistaking an illumination gradient for a surface gradient. Thus, the situation-dependent property approach provides us with a criterion that distinguishes psychological illusions from cases that are due to situation-dependent features.

The same analysis applies to cases in which a straight stick partially immersed in water appears to be bent. Here too a perceiver mistakes a situation-dependent for an intrinsic property. The stick is in fact situation-dependently bent: this is due to the different refraction indexes of water and air respectively. As a consequence, it is accurate to represent it as situation-dependently bent. The stick is not, however, intrinsically bent. If the perceiver represents it to be intrinsically bent, she is misrepresenting a situation-dependent property as an intrinsic property. Doing so is not the same thing as undergoing a perceptual illusion.

If one holds that illusions include not only cases in which one is misrepresenting a situation-dependent as an intrinsic property, but also cases in which one is aware of situation-dependent properties (or more generally perceptual variance), then almost all cases of perception turn out to be illusory. This is not a good outcome.

It should be noted here that the same perceptual capacity can be employed to single out an intrinsic property and to single out a situation-dependent property. For example, if you perceive first a red wall and then a white wall illuminated by red light that looks just like the red wall, you will employ the same perceptual capacity to discriminate and single out that shade of red in the environment. In the first case, you discriminate and single out an intrinsic red property. In the second, you discriminate and single out a situation-dependent property. The fact that you single them out by employing the same perceptual capacity grounds their phenomenal sameness.

The situation-dependent property approach allows us to analyze perspectival variance as a standard aspect of perception without resorting to illusions. So it allows us to acknowledge that in cases of perceptual variance there is an actual change in the environment that explains the experience of variance. Thus, it satisfies the *variance without illusion desideratum*. In doing so, it shows what the difference is between cases in which we experience perspectival variance and psychological illusions such as the Müller-Lyer illusion and the Tichner circle.[46] While the former are due to changes in our environment, psychological illusions are due to the perceptual system processing incoming information in ways that leads to mistakes.

5. Advantages of the Situation-Dependent Properties Approach

I set out by distinguishing questions about the metaphysics, content, and the phenomenal character of perspectival variance and perceptual constancy. What is a perceiver is perceptually related to? What does she represent? What does she experience?

In response to the metaphysics question, I developed a particular way of understanding perspectival properties, namely as situation-dependent properties. Since they are external, mind-independent properties that are exclusively constituted by intrinsic properties and the perceptual conditions, situation-dependent properties are as objective, external, and mind-independent as intrinsic properties. I argued that perceivers can be perceptually related to both intrinsic and situation-dependent properties in their environment.

[46] I discuss this in more detail in Section 4.3.

In response to the content question, I argued that perceivers represent situation-dependent properties. Human perceivers typically represent also intrinsic properties. Since situation-dependent properties are external and mind-independent, they can be represented and misrepresented in just the way that intrinsic properties can be. In addition to distinguishing intrinsic and situation-dependent properties, I introduced two critical distinctions: (i) the environmental particulars *available to be perceived* and those that are in fact *perceived*, as well as (ii) the environmental particulars perceived and the *way* in which they are perceived and represented.

In response to the consciousness question, I argued that constancy properties are grounded in representations of intrinsic properties, while appearance properties are grounded in representations of situation-dependent properties. By explaining how perceptual consciousness can be characterized by both a variant and an invariant aspect, the suggested view satisfies the *dual aspect desideratum*. The distinction between which environmental particulars are *available to be perceived* and which are in fact *perceived* allows for an analysis of cases in which there are changes in consciousness despite the perceiver's environment remaining unchanged. The distinction between *which* environmental particulars are represented and the *way* in which those particulars are represented explains further cases of changes in consciousness without changes in the environment. It explains also cases in which the constancy mechanism of the perceptual system downplays perspectival variance while highlighting invariant properties in the environment. In these ways, the situation-dependent properties approach can explain cases in which the perceptual system prioritizes perceptual invariance. Thus, it satisfies the *primacy of constancy desideratum*.

The situation-dependent properties approach accounts for the fact that external, mind-independent objects, events, and properties can be perceived under a range of different perceptual conditions, none of which are privileged as the normal perceptual conditions. Thus, the situation-dependent properties approach satisfies the *range desideratum*. Since intrinsic and situation-dependent properties are different in kind, representing both does not yield inconsistent content. The view, therefore, satisfies the *consistency desideratum*. Finally, by explaining perspectival variance without resorting to illusions, the view satisfies the *variance without illusion desideratum*.

The situation-dependent properties approach is grounded in neuroscience, and it can be accepted by a range of different views about other aspects of perception. It can be accepted by any version of representationalism, naïve realism, or adverbialism, to name just a few possible views. There are several further advantages of the situation-dependent properties approach. It satisfies what we can call the generality desideratum.

Generality Desideratum: To give an account of perspectival variance and perceptual constancy that holds for all sensory modalities.

Every case of perception, no matter the perceptual modality, is subject to perspectival variance. After all, changes in location and other perceptual conditions affect how an object, event, or property-instance manifests itself—regardless of via which sensory mode the particular is perceived. Arguably, an account of perspectival variance should be sufficiently general to apply to any perceptual modality: it should apply not only to cases of visual, spatial perception, but also to cases of color perception,

sound, smell, taste, touch, proprioception, temperature, and pressure perception, to name just a few. Needless to say, there will be some differences between specific perceptual modalities. However, given the perspectival nature of perception, there will be at least some commonalities between the way in which variance and invariance manifest themselves in different modalities. The same holds for multimodal perception.[47] For standard reasons of parsimony, one account that applies to all perceptual modalities is preferable over only multiple modality-specific accounts.

Such a general account can be supplemented with more specific accounts that address the modality-specific details. It would be unfortunate, however, to focus only on the differences between perceptual modalities and forfeit a general account. The situation-dependent properties approach provides such an account. So, it satisfies the generality desideratum.

By explaining not only standard cases of perception but also unusual cases, the situation-dependent properties approach satisfies moreover what we can call the universality desideratum.

Universality Desideratum: To explain not only standard cases of perception but also unusual cases.

Among others, I discussed cases in which we confuse a variant property for an invariant property and vice versa; cases in which it is unclear to us which of the properties perceived is perspectival and which is intrinsic; cases in which our perceptual consciousness changes even as the environment remains exactly the same; and also cases in which we are aware of the perceptual conditions versus cases in which we are not.

Further, by explaining perceptual variance and invariance in terms of representations of environmental properties, the situation-dependent properties approach satisfies what we can call the naturalism desideratum.

Naturalism Desideratum: To explain perspectival variance and perceptual constancy without resorting to strange particulars and obscure entities.

While some orthodox views have explained perspectival variance by resorting to illusions, others have explained it by appealing to strange particulars and abstract entities, such as sense data, qualia, or Meinongian objects.[48] Arguably, a viable account of perceptual variance and invariance should explain variant and invariant properties as well as awareness of them without resorting to such strange particulars and obscure entities. After all, it is unclear what the explanatory gain is in appealing to awareness of such entities.

How does this approach help avoid over-intellectualizing perception? If perspectival variance is accounted for in terms only of properties of consciousness, as on traditional views, and if only beings similar to us have consciousness, then accounting for perspectival variance only at the level of consciousness implies that only beings similar to us have perceptions that manifest perceptual variance. But perceptual variance is part of the basic mechanics of any perceptual system. If situation-dependent properties are external, mind-independent properties as argued, then such over-intellectualization is

[47] For a discussion of multimodal perception, see O'Callaghan 2019.
[48] For a discussion of the problems with such accounts, see [reference omitted for blind-refereeing].

avoided. Any perceiver can be perceptually related to such properties, and a perceptual system can process information stemming from such properties regardless of whether the ensuing perceptual states are conscious.

A further theoretical advantage of appealing to situation-dependent properties is that it gives an account of perspectival variance that cleanly separates the aspects of perspectival variance that are due to mind-independent properties in the environment from aspects that are due to the *way* in which those properties are represented. It can explain how it is that we can misrepresent situation-dependent properties and intrinsic properties. It can explain precisely what we get right and what we get wrong in situations such as when we see a white wall that unbeknownst to us is illuminated by red light, and we misperceive it to be intrinsically red. We get something right: the wall is situation-dependently red. What we get wrong is that we mistake what is in fact a situation-dependent property for an intrinsic property—though, of course, we do not represent the properties under those labels. On traditional views, these distinctions are conflated.

So, the situation-dependent properties approach cleanly distinguishes between the objective and subjective aspects of perspectival variance. Situation-dependent properties are objective properties and account for the objective aspect of perspectival variance. Their representation accounts for the subjective aspect of perspectival variance. Acknowledging situation-dependent properties allows us to explain our subjective perspective on the world in ways that demystify perspectival consciousness. Perception is to its core perspectival, and we never entirely escape the perspective from which we perceive our environment.

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