Structural Phenomenal Properties

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Abstract

The usual considerations about high-level properties perception focus on contents of perceptual experiences. While different types of high-level properties are considered, such as category-related, causal, emotional, and aesthetic, they are all interpreted as elements of experiential content. This paper introduces a new category of perceptual properties—structural phenomenal properties—by utilizing the important distinction between experiential contents and experiential structures. It is argued that while these are not content-properties, some of them have characteristics typical of high-level content properties. In particular, three structural phenomenal properties related to the visual field will be considered: the boundedness of the visual field, its feature-filled character, and its oriented character. It is argued that, similarly to typical high-level properties, their experiential presence does not consist in the presence of an arrangement of low-level properties, but they do supervene on some low-level properties.

Keywords: Experiential structures, High-level properties, Perceptual content, Visual field.

1. Introduction

The debate about the perception of high-level properties is usually framed in terms of experiential content. In particular, the debate focuses on the 'scope' or 'reach' of perceptual content by considering what types of properties are perceptually represented (e.g., Bayne 2009; Briscoe 2015; Siegel 2006). A common question within this debate is whether human vision represents only 'low-level' properties such as colors and shapes, or also 'high-level' properties such as natural kinds, causal relations, and aesthetic properties.

However, a common trend in contemporary philosophy of perception is to distinguish between experiential content and experiential structure (e.g., Alsmith 2017; Cavedon-Taylor 2018; Mac Cumhaill 2015; Macpherson 2015; Martin 1992; Richardson 2010). While content characterizes what is presented by an experience and, in many accounts, determines the accuracy of an experience, expe-

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riential structures are relatively invariant ways of organizing experiential content.[1] A common example of an experiential structure is the visual field, which appears to be a relatively invariant spatial structure as it is present in all typical visual experiences (see Martin 1992; Serrahima 2022; Sorensen 2011; Soteriou 2011). Although visual experiences can have various contents, in normal cases these contents are always organized within the spatial structure of the visual field.

Some properties of experiential structures are such that we are phenomenally aware of them when we are having an experience. A common example is the bounded character of the visual field (e.g., Dokic 2003; Mac Cumhaill 2015; Serrahima 2022). We are aware of our visual field as spatially limited, which is often explained in terms of our awareness of it as part of a larger space that we cannot currently see (e.g., Cavedon-Taylor 2018; Dokic 2003; Laasik 2019; Martin 1992; Richardson 2013). The boundedness of the visual field is a relatively invariant structural property because no matter what a visual experience presents, it is presented within the visual field, which has the characteristic of being bounded. I will subsequently refer to properties such as the boundedness of the visual field—structural properties of which we are phenomenally aware—as 'structural phenomenal properties'.

My aim is to demonstrate that structural phenomenal properties form a hierarchy that is analogous to the hierarchy of lower- and higher-level content properties. This observation suggests that another class of high-level experiential properties exists: high-level, structural, phenomenal properties. This class has not yet been investigated in debates about the perception of high-level properties.

I will start to explain the concept of phenomenal structural properties by referring to the key ideas about experiential structures found in the philosophical literature (section 2). In section 3, I present three examples of structural phenomenal properties related to the visual field: the boundedness of the visual field, its feature-filled character, and its orientated character. Subsequently (section 4), I will introduce a hierarchy of perceptual properties, and observe that the usual examples of high-level properties are such that their experiential presence does not consist in the presence of some combination of low-level properties, but that their presence supervenes on the presence of low-level properties. Finally, in section 5, I argue that the three structural phenomenal properties considered, all possess characteristics similar to those of typical, high-level, perceptual content properties.

2. Structural Phenomenal Properties

In the philosophical literature, two main intuitions regarding experiential structures can be identified. Firstly, they are characterized as relatively invariant aspects of experiences (e.g., Alsmith 2017; Lande 2018; Matthen 2004). Secondly, they are ways of organizing experiential content (e.g., Alford-Duguid 2024; Richardson 2010, 2014; Soteriou 2011). The most widely discussed example of an experiential structure is the bounded visual field. Philosophers of perception have understood the notion of the visual field in several distinct ways (see Clark 1996; Richardson 2010; Sorensen 2011). When discussing experiential structures, the structural notion of the visual field, which was originally proposed by Martin (1992, 1993), is typically employed.

[1] As I explain further, 'relative invariance' means that a structure may be present in all experiences of a given type but not in experiences of other types (for example, those associated with a different sensory modality).

According to this notion, the visual field is a roughly conical space in which entities may, in principle, be visually perceived. Beyond the boundaries of this space, there is a larger space in which objects cannot currently be perceived. It is often claimed that the boundaries of the visual field are experienced differently to the edges separating visible objects as they constitute the spatial limitations of a visual experience and not boundaries of an object presented by an experience (see Dokic 2003; Sorensen 2011; Soteriou 2011).

Although our visual experiences present a wide variety of scenes and can, therefore, have a wide variety of contents, in the case of normal visual experiences, these contents always seem to be present within a bounded visual field. Consequently, the bounded visual field is a relatively invariant element of visual experiences as it is present in all normal visual experiences. Furthermore, the bounded visual field organizes content because its features determine that all visually perceived entities are located within the boundaries of the visual space.

The major intuitions regarding experiential structures can be further elucidated by referring to the notion of the class of all normal human perceptual experiences, which contain all experiences that can be generated by human perceptual modalities when functioning normally. For the purpose of this paper, I understand 'normal experiences' as those generated by modalities that are not affected by disturbances and which have developed alongside other modalities so that they can learn common sensorimotor contingencies. I also exclude experiences altered by technological means, such as sensory substitution devices. A subclass of the class of all normal human perceptual experiences is the class of all normal human visual experiences. A structure, such as the visual field, is invariant, in the sense that it is present in all experiences belonging to the class of normal human visual experiences. However, it is only relatively invariant: the visual field may be absent from experiences belonging to a larger class of human visual experiences (which are not necessarily 'normal'). For example, the visual field may be absent in experiences generated by vision when affected by Bálint's syndrome (see Cheng 2019; French 2018, for discussion). Furthermore, by referring to the class of normal human visual experiences, it can be clarified what it means for the visual field to organize visual content. This is because the visual field, due to its properties, imposes constraints on experiences that belong to the class of normal human visual experiences. For example, due to the properties of the visual field, the class of normal human visual experiences does not include experiences representing objects positioned beyond the boundaries of the visual field.

It should be noted that experiential structures are often modality-specific. While the visual field is a structural element of normal visual experiences, there is a debate about whether we can also identify a structure with characteristics of a spatial field in other modalities, with characteristics analogous to those of the visual field. For example, there is a discussion about whether auditory experiences involve an auditory field, which would be a stable structure composed of auditory directions (see Wilson 2023). Similar questions have also been asked in the context of tactile modality (see Cheng 2019).

Given the structural status of the bounded visual field, we can consider the property of 'boundedness' it possesses. This property is not only structural—its presence in visual experience is relatively invariant and it organizes visual content—it also seems to be phenomenal. This is because the presence of a bounded visual field influences the phenomenal character of visual experiences such that we seem to be aware that our visual field is limited. For example, if our visual

field were unbounded and covered 360 degrees around our head, our visual phenomenology would differ and we would not be aware that the visual field had limits (or at least 'left', 'right', 'top', and 'down' limits). The thesis that there is a phenomenal awareness of the boundedness of the visual field is widely accepted in the literature. It is particularly claimed that this awareness is an awareness of sensory limitations, or of visual space as part of a larger space (e.g., Mac Cumhail 2015; Richardson 2010; Soteriou 2011).

Due to its structural and phenomenal nature, the boundedness of the visual field is a structural phenomenal property. Of course, many phenomenal properties are not structural. For example, the redness of a visual region is a phenomenal property because it constitutes the phenomenal character of a visual experience; however, it is not structural because it is not invariant. Many normal visual experiences do not present a given region as being red or they do not present anything red at all.

Conversely, there may be structural properties that are not phenomenal. For example, due to the limitations of visual, spatial, discrimination abilities, some regions of the visual field are 'discrimination regions', i.e., regions in which it is impossible to distinguish between the spatial locations of objects. These regions are smaller at the center of the visual field than at the periphery, as smaller spatial differences are sufficient to differentiate between the positions of visual entities at the center. Discrimination regions are also bounded, and their boundedness is a structural property. This is because it is an invariant property of visual experiences; there will always be some bounded discrimination regions, regardless of the content of the experience. The boundedness of discrimination regions also organizes visual content as it plays a role in determining which visual elements are experienced as spatially distinct, and which are experienced as co-located. The changes in the distribution of discrimination regions are not without impact on perceptual phenomenology. For example, if the discrimination regions were the same size at the periphery as at the center, entities at the periphery of the visual field would appear more detailed than in usual experiences. However, one may doubt whether the specific property of the boundedness of discrimination regions is phenomenal in a manner similar to the boundedness of the visual field. While we are phenomenally aware of where the visual field ends, we are not phenomenally aware of where one discrimination region ends and another begins, or how their boundaries overlap.

3. Three Structural Visual Properties

Further, I focus my considerations on three structural phenomenal properties that are present in normal visual experiences. The first is the boundedness of the visual field, which has already been characterized above. To observe the second phenomenal structural property, consider that every normal visual experience involves some property in every visual direction. For instance, it is not possible to have a normal visual experience in which there is no color, texture, or other property straight in front of us, but only empty space extending indefinitely. Even in experiences of total darkness, in which it is not obvious that one sees any depth (see Sorensen, 2008 for a discussion), there is some 'black' positive visual property present in every visual direction. For instance, there is blackness both at the center of the visual field and also to the right and left of the center. This does not mean that there must be a fully determined property, such as a particular shade of color,

in every direction. On the peripheries of the visual field, it may be the case that only 'some color' is present in a visual direction without further specification.

These considerations allow us to state that our visual field has a property that we may call 'feature-filled'. This fact is sometimes used to distinguish visual experiences from those associated with other senses. For example, if one accepts that there are genuine auditory experiences of silence (e.g., Phillips 2013; Sorensen 2008; Soteriou 2011), then some auditory experiences are not feature-filled, in that they, for instance, do not represent any auditory properties to the right. Similarly, some studies on tactile perception suggest that tactile patterns on the skin are experienced within a 'skin space' composed also of locations that are not stimulated. (see Cheng 2019) Consequently, there may be tactile experiences that present skin-related locations without attributing any tactile properties to them.

It should be noted that the feature-filled character of the visual field is not inconsistent with the possibility of visually perceiving empty space. To illustrate this, consider Martin's classic example of seeing a Polo mint: a circular sweet with a hole in the middle (Martin 1992). Martin notes that when we see a Polo mint, we are aware of the space in the middle as empty space that could be occupied; however, currently, there is nothing in it. Nevertheless, this experience also involves the perception of a background behind the Polo mint, which can be seen through the hole. Consequently, despite the perception of empty space, the visual field is feature-filled, as some property would be presented in every visual direction, including those visual directions in which the hole is located.

In the context of vision, the property of being feature-filled appears to be a structural phenomenal property. This is because in normal visual experiences, the visual field is always feature-filled and organizes content by imposing the constraint on the experiential content that some property must be represented in every visual direction. The property of being feature-filled is also phenomenal because the presence of properties in every visual direction is a key factor in determining visual phenomenology.

In fact, it is difficult to find examples of visual experiences—even among non-normal experiences—that could be uncontroversially interpreted as lacking the property of being feature-filled. It could possibly be argued that people affected with blindsight have a part of the visual field that is not feature-filled. However, other interpretations are also possible. For instance, it may be the case that with blindsight the whole of the visual field is feature-filled, but people have difficulty reporting the presence of features in the blind part. Of course, experiences occurring in blindsight are not normal, as they are produced by a severely disturbed visual system (part of the visual cortex is missing), and so considerations about them go beyond the scope of this paper.

A third example of a structural phenomenal property concerns the orientation of the visual field. The directions that constitute the visual field are in various spatial relationships with each other. For instance, a visual direction may lie midway between the center of the visual field and its boundaries. However, in each normal visual experience, there is more than one direction that satisfies this relational characteristic, and these directions differ from each other in terms of their egocentric characteristics. For example, one direction between the center of the visual field and its boundary is 'to the left', while another is 'to the right'. Indeed, every direction in the visual field in a normal visual experience has some egocentric characteristics.

Consequently, we can identify another invariant structural property of the visual field. The visual field is 'oriented' because there is a stable arrangement of egocentric directional characteristics among the directions that constitute it. For example, all directions in one half of the visual field are to the right, while those in the other half are to the left. This feature contributes to the organization of visual content, for example by determining that there are no normal visual experiences in which everything is to the right. Being oriented is also plausibly phenomenal, as, for instance, we are phenomenally aware of the differences between the left and right directions positioned exactly between the center and the boundaries of the visual field.

As with the feature-filled characteristic, the oriented nature of perceptual space may not be present in every modality. According to some accounts of olfactory spatiality, for example, olfactory experiences merely represent entities as being 'here' or 'outside', without characterizing the olfactory space as having an orientation (e.g., Batty 2010; Chomanski 2022).

It should be noted that assuming that visual directions have egocentric characteristics does not mean postulating that directional characteristics are intrinsically different such as, for example, the perceptual property 'red' is intuitively different from the perceptual property 'green'. Instead, it has been proposed that egocentric characteristics are relational characteristics that specify the position of a seen object in relation to the subject (see Alsmith 2017; Schwenkler 2014; Skrzypulec 2024, for a discussion of various specific approaches).

I assume that structural phenomenal properties are perceptual properties and not, for instance, properties that are cognitively attributed to our experiences when we reflect on how we perceive the world. In particular, I believe that there are several prima facie reasons for treating them as such. Firstly, the phenomenology associated with the boundedness of the visual field, its feature-filled nature and its orientation seem to be perceptual. For example, if our visual field were not feature-filled, but instead more similar to the auditory experience of silence, this would seem to involve a change in perceptual phenomenology. Secondly, phenomenal structural properties seem to occur independently of background knowledge. For example, the bounded nature of the visual field largely arises from the way sensory organs are constructed and cannot easily be modified by cognitive information. Thirdly, the structural phenomenal properties under consideration are likely to be the result of the functioning of perceptual mechanisms. For example, it is commonly claimed that the orientation of the visual field results from interactions between visual and bodily sensory mechanisms (see Briscoe 2021; Grush 2007).

The usual counterexamples regarding the perceptual status of visual structural properties present cases of experiences that are not normal in the sense adopted in this paper. For instance, Chalmers (2019) postulates that if some subject has its first visual experience ever, then for such a subject an experience presenting an object close to the right boundary of the visual field would be phenomenally the same as experience presenting such object close to left boundary (a similar example has been proposed by Zięba (2022) in the context of the boundedness of the visual field). However, this is not a normal experience generated by mature visual system which has developed in a body together with other modalities. It is certainly possible that the oriented character of the visual field is not given from the very beginning in the ontogenetic development, but its appearance requires some processes of perceptual learning.

4. Hierarchy of Perceptual Properties

The philosophical literature does not provide a general, widely accepted definition of high-level perceptual properties. Instead, the usual practice is to designate properties that are commonly accepted as being represented by a given modality—such as color for vision and pitch for audition—and to treat properties that go beyond this category as high-level. Consequently, typical examples of high-level properties include those that characterize categories of things, are related to causality, or concern emotions or aesthetic aspects of perceived entities.

My aim is not to provide an argument showing how to precisely draw a boundary between low-level and high-level properties. Instead, I will present a simple hierarchy of perceptual properties that allows us to specify several understandings of high-level properties. Building on this, I will demonstrate that a similar hierarchy is present in the case of structural phenomenal properties.

The proposed hierarchy is organized by dependency relations and can be characterized by the answers to three questions. The first is whether the presence of a given property in an experience consists merely in the presence of one of the noncontroversial, low-level properties. The second question is whether the presence of a given property consists merely in the presence of a combination of low-level properties. The third question is whether the presence of a given property supervenes on the presence of some low-level properties. These questions are framed in terms of 'presence of properties' rather than 'representing properties' for two reasons. Firstly, I believe that investigations into structural phenomenal properties are largely independent of the metaphysical theory of perception adopted, and so I use the more neutral language of 'presenting', which does not suggest representational theories. Secondly, structural properties are not usually interpreted as constituting experiential content. While properties such as the boundedness of the visual field are present in an experience in virtue of determining phenomenal character and organizing content, they may not be representational properties that characterize external entities.

The answers to the three preceding questions establish a straightforward hierarchy of perceptual properties. Firstly, if the presence of property F in an experience is simply the presence of a certain low-level property, then F must be a low-level property because it is identical to such a property. Let's call this a level-0 property. However, the presence of some properties may not consist in the presence of any single low-level property, but rather in some combination of low-level properties. For instance, in the classic philosophical example of representing something as a pine tree one might argue that the experiential presence of the property of being a pine tree consists in the presence of an arrangement of low-level shape properties. Such a property could be termed a 'level-1' property. While level-1 properties are not simply low-level properties, they are rarely treated as high-level properties. Typically, arguments aimed at demonstrating that the presence of a proposed high-level property can be explained in terms of the presence of certain complex combinations of low-level properties are formulated to refute the idea that a given property is high-level (see Briscoe 2015; Brogaard 2013; Prinz 2007, 2013; Silins 2013 for discussion).

The presence of a property in an experience may not merely consist in the presence of an arrangement of low-level properties. Nevertheless, the considered property may supervene on the presence of some low-level properties. This means that if a certain property F is not present in a given experience, it cannot start to

be present without some change to the low-level properties, at least in the case of normal experiences (and conversely, F cannot stop to be present without a change in some low-level properties). However, since the presence of property F does not consist in the presence of a particular combination of low-level properties, there may be many combinations that allow for the presence of property F.

Let's call such a property a level-2 property. It seems common to treat level-2 properties as high-level properties. In particular, the usual cases of phenomenal contrast invoked to argue for the presence of some high-level properties characterize situations in which a high-level property starts to be present in addition to some low-level properties required for its presence (e.g., Bayne 2009; Nanay 2011; Prinz 2013; Siegel 2006). For example, the perceptual property of being a pine tree may be considered a high-level property, which cannot be identified with any particular combination of low-level properties. It is so because there are many specific combinations of shapes and sizes which may be accurately represented as pine trees. However, the property of being a pin tree cannot be present in an experience unless certain low-level properties, for instance related to shape, are also present. It should be noted that these claims are made in the context of normal human perceptual experiences. I do not exclude the possibility that, due to a disturbance in the functioning of the visual system, the property of being a pine tree may be attributed to an object regardless of its low-level properties.

Finally, there may be properties whose presence not only does not consist in the presence of a particular combination of low-level properties, but is also does not supervene of the presence of low-level properties. Such 'level-3' properties would certainly be high-level, but it is controversial whether they actually occur in the context of human perception. The belief that level-3 perceptual properties occur may be motivated by the observation that it is sometimes difficult to conceptualize which lower-level properties represent a given high-level property. A classic example is that of chicken sexers, who can recognize whether a chicken is male or female by touch, but the relevant differences are difficult to explain (Biederman and Shiffrar 1987). However, such examples are controversial because, even if chicken sexers cannot precisely explain the differences in lower-level properties involved in recognizing male and female chickens, they do not deny that such differences exist because male and female chickens feel different when touched (males are described as 'round' and females as 'pointy', Biederman and Shiffrar 1987: 641). This suggests that alternative perceptual recognitions occur as a result of representing different lower-level tactile properties relating to shape, size or elasticity.

In the next section, I will evaluate the boundedness of the visual field, its feature-filled character and its oriented character, relying on the above conceptual framework. I will argue that these properties can be plausibly interpreted as level-2 properties, similarly as typical high-level properties.

5. Hierarchy of Structural Properties

Building on the hierarchy described in the previous section, we can now consider whether structural phenomenal properties also form such a hierarchy. In particular, I will consider the three questions mentioned earlier in relation to three structural phenomenal properties: the boundedness of the visual field, the feature-filled character of the visual field, and the oriented character of the visual field. I will consider whether their presence consists in the presence of some low-level prop-

erties or combinations thereof, and whether their presence supervenes on the presence of some low-level properties. I will argue that these structural phenomenal properties are similar to type-2 perceptual properties, i.e., they have characteristics similar to those of usual high-level properties.

However, an additional complication should be mentioned before conducting these investigations. Since usual considerations about high-level properties are made in terms of experiential content, it is assumed that high- and low-level properties are both elements of experiential content. Consequently, in this context, dependency relations such as identity and supervenience concern elements of experiential content. However, this issue becomes ambiguous when structural phenomenal properties are considered, such as the bounded character of the visual field. In this context, dependency relations concerning the presence of the bounded character of the visual field may refer to a dependence on low-level properties that constitute experiential content, or a supervenience on low-level structural properties. Subsequent investigations will address these issues separately by examining the relations between structural phenomenal properties and low-level content properties, as well as the relations between structural phenomenal properties and low-level structural properties.

Furthermore, if we are to consider a hierarchy of structural phenomenal properties, we must first understand what low-level, type-0 structural phenomenal properties are. As my aim is to consider the status of properties that characterize the visual field, I will also consider low-level structural properties related to this structure. The visual field is composed of directions that are connected and arranged in a spatial manner. These directions, and their spatial arrangement, are invariant properties of normal visual experiences. For example, in every normal visual experience, there is a spatial direction that is very close to one boundary of the visual field and is connected to a spatial direction that is slightly closer to the center of the visual field. This next direction is also connected to a direction even closer to the center of the visual field, and so on. If a certain direction D is present in every normal visual experience, then its presence is a structural property. It is also a phenomenal property, in that one can be phenomenally aware of the presence of a particular visual direction. Further, I consider the presence of a particular direction to be a low-level phenomenal structural property of the spatial structure of visual experiences.

Furthermore, the structure of normal visual experiences is characterized not only by the presence of certain directions, but also by their spatial arrangement. For example, as observed above, in every normal visual experience, a direction close to the edge of the visual field is connected to a direction slightly closer to the center. Furthermore, the presence of such connections is something one can be phenomenally aware of. If such connections were different—for instance, if there were no patterns of connections between visual directions leading from the edges to the center of the visual field—the phenomenology of visual space would be very different from that occurring in the normal visual experiences. For instance, our visual space would be composed of two disjoint parts: a circular part around the center of the visual field and a ring-shaped part near the periphery with an 'experiential gap' between those two parts.

Consequently, properties concerning connectedness relations between visual directions are present in all normal visual experiences and, therefore, they are structural phenomenal properties. I also interpret these as low-level, type-0 structural phenomenal properties. Based on the presence of these low-level structures,

we can also discern type-1 structural phenomenal properties concerning the spatial arrangement of visual directions. For example, the visual field present in normal experiences has a property characterizing that visual directions create a circle around the center of the visual field. These are type-1 properties because their presence consists in the presence of some combination of type-0 properties concerning visual directions and the connectedness relations between them.

Relying on these preliminary observations, we can consider the first of the phenomenal structural properties: the bounded nature of the visual field. Let us start by considering the relationship between the boundedness of the visual field and experiential visual content. In normal visual experiences, the visual field is always bounded, regardless of the perceived visual scene. For example, whether the entire visual field is filled with red, or one perceives a natural landscape with various objects and properties, the visual field is still bounded. Consequently, the presence of the bounded visual field does not consist in the presence of any particular arrangement of visual content, as boundedness will be present regardless of such arrangements. However, the presence of the bounded character of the visual field appears to supervene on certain arrangements of low-level experiential contents. To illustrate this, imagine the visual field expanding to cover 360 degrees around the head. In this case, the visual field would no longer be roughly conical, but spherical, presenting all possible egocentric directions. This would entail a change in low-level visual content because this content would now concern objects and properties in directions that were previously not accessible visually. In particular, due to the feature-filled nature of visual experiences, there would be a feature presented in every new visual direction in such an unbounded visual field.

A similar result is obtained when considering the relationship between the boundedness of the visual field and its low-level structural properties. The presence of certain arrangements of visual directions is sufficient for a boundedness of the visual field to be present. For example, if there is a direction D at a small distance to the right of the center of the visual field, a direction D1 at a small distance to the right of D, and so on, but no direction farther to the right than a distance X from the center, then this configuration implies that the visual field is bounded. This is because the visual field has limits: there are no visual directions beyond a certain distance to the right of the center. Conversely, no particular arrangement of visual directions is necessary for the visual field to be bounded, as various arrangements can create bounded visual fields of different sizes and shapes. Consequently, the presence of bounded visual fields does not consist in any particular arrangement of visual directions.

However, the presence of the boundedness of the visual field supervenes on the arrangement of visual directions. In particular, transitioning from a bounded to an unbounded visual field involves changing how visual directions are arranged. For example, additional visual directions must be added to transform the typical human bounded visual field into an unbounded field encompassing the space around the head. Consequently, as the presence of bounded visual fields does not consist in the presence of combinations of low-level content or structural properties, but rather supervenes on their arrangement, it is plausible to characterize it as a type-2 property. This category contains the usual examples of high-level perceptual properties.

Now, let us consider whether the same result applies to the second structural phenomenal property: the feature-filled character of the visual field. The presence

of the feature-filled character does not consist in the presence of a particular arrangement of visual contents. Rather, in normal cases, the visual field is feature-filled, regardless of the arrangement of contents presented. Conversely, the presence of the feature-filled character of the visual field supervenes on the presence of certain arrangements of visual contents. It is difficult to imagine a transition between a feature-filled visual field and one that does not have this characteristic. It may be somewhat helpful to make a comparison between normal visual experiences and auditory experiences. Auditory experiences do not seem to be feature-filled. While there is no philosophical consensus on whether there are perceptual experiences of silence, rather than just cognitive ones (see Meadows 2020; O'Shaughnessy 2003: 330–333; Phillips, 2013; Soteriou 2011, for a discussion), one option in the philosophy of audition is that auditory experiences of silence may represent empty egocentric directions (see O'Callaghan 2010; Skrzypulec 2022; Wilson 2022). For example, an auditory experience may present auditory entities on the right, while also presenting empty directions on the left. If this view of audition is adopted, the transition from a feature-filled visual field to one without this characteristic would make visual experiences more similar to auditory experiences. This would obviously entail a change in experiential content, as there would be some visual directions in which no visual features are presented after such a transition. Similarly, as noted in Section 2, if blindsight is a plausible model of a visual field that is not feature-filled, then the transition between a normal visual field and a visual field that is not feature-filled (due to being partially affected by blindsight) will also involve a change in content. This is because under this interpretation of blindsight, nothing is presented in the directions positioned in part of the visual field affected by blindsight.

The presence of the feature-filled visual field also does not consist in the presence of any particular arrangement of low-level structural properties. Regardless of the arrangement of visual directions, the visual field could, in principle, be feature-filled or not. However, while the boundedness of the visual field supervenes on the presence of certain low-level content and structural properties, the feature-filled character of the visual field does not supervene on the presence of certain structural properties. Transitioning from a feature-filled to a non-feature-filled visual field entails modifying content properties but does not require a modification of the spatial arrangement of visual directions. The spatial structure could remain the same, yet the visual field could become nonfeature-filled due to a lack of features in certain visual directions.

Consequently, although the feature-filled character of the visual field is also a type-2 property, its status is not the same as that of the boundedness of the visual field. The presence of both the boundedness of the visual field and its feature-filled character does not consist in the presence of an arrangement of low-level properties. On the other hand, their presence supervenes on the presence of certain low-level properties. However, the boundedness of the visual field supervenes on both low-level content and structural properties, whereas the feature-filled character supervenes only on low-level content properties.

Now, let us consider the third structural phenomenal property of the visual field: its oriented character. The fact that visual directions not only stand in spatial relations, but are also to the left or right, cannot be identified with any arrangement of low-level content properties. Indeed, regardless of what is perceived, it is always perceived within an oriented visual field with a stable arrangement of directional properties. For example, entities presented in one half of the visual field

are always in the 'right' directions, while those presented in the other half are always in the 'left' directions. Does the presence of the oriented character of the visual field supervene on the presence of some low-level content properties? To explore this idea, imagine perceiving a green square to the left of the center of the visual field, and a red circle to the right of the center. If the visual field loses its orientation, many content elements would remain the same. The experience would still present a red circle and a green square, which would be presented as being at some distance from each other. However, the green square would no longer appear to the left of the red circle. Consequently, transitioning between oriented visual fields entails changes in content.

However, these are very specific changes concerning directional properties, the presence of which itself depends on the presence of oriented visual directions. This is because if the visual field were not oriented, then the experience would not present anything as being, for instance, to the left or right of some other object. The situation here differs from that occurring in the case of the supervenience of the boundedness of the visual field on low-level content properties. The transition between a bounded and an unbounded visual field entails a change in content as new content concerning new visual directions emerges. For instance, such a change may consist in the occurrence of new, color-related contents. Nevertheless, the presence of low-level content properties, such as color properties, is independent of the boundedness of the visual field. In particular, colors may be presented whether the visual field is bounded or not.

Furthermore, the presence of an oriented visual field does not obviously supervene on the presence of low-level structural properties, which are understood in terms of the spatial arrangement of visual directions. The transition between an oriented and non-oriented visual field does not seem to entail a change in the visual directions present in an experience, nor in the spatial relations between them. For example, in an oriented visual field, there is a direction 'slightly to the left', which is next to the 'center' direction, which is next to the 'slightly to the right' direction. In an unoriented visual field, the spatial arrangement of these directions would still be present. However, they would no longer be experienced as 'slightly to the left', 'center', or 'slightly to the right', but merely as directions which are next to each other in a certain pattern.

Consequently, we can conclude that the orientation of the visual field supervenes on low-level content properties, but it only supervenes on properties that themselves depend on the presence of oriented visual directions. Furthermore, there is no obvious supervenience of the oriented character of the visual field on low-level structural properties. For these reasons, the oriented character of the visual field may be considered as a candidate for a type-3 property.

However, these results may also be due to the low-level structural properties being treated too narrowly. In the visual context, it may be the case that low-level structural properties are not only properties concerning the presence of visual directions and the spatial relations between them, but also properties concerning the perceived objects' and places' relation to the subject's bodily structure. In this context, the fact that a visual direction is 'to the right' may be due to visual locations in this direction being closer to one eye than the other. In fact, when discussing the egocentric structure of visual experiences, self-location theories are one of the main options. These theories postulate that visual entities are experienced as being in relation to a perceiving subject (see Alsmith 2017; Peacock 1992: 30–40; Schwenkler 2014; Skrzypulec 2024, for variants). If these theories are correct, the

presence of an oriented visual field may depend on certain arrangements of low-level structural properties. In particular, transitioning from an oriented to a non-oriented visual field could result in the disappearance of structural properties characterizing relations between locations within the visual field and the structure of the subject. However, while such considerations are relevant to establishing whether the oriented character of the visual field is a level-3 property, it can safely be assumed that it is at least a level-2 property.

6. Conclusions

There are various philosophical considerations regarding different types of high-level properties, such as category-related, causal, or emotional properties. However, debates on high-level perception are framed in terms of experiential content. My investigations show that there is another type of perceptual properties—structural phenomenal properties—and some of these properties possess characteristics that are typical of common examples of high-level properties. In particular, these high-level properties are type-2 properties in the sense that their presence does not consist in the presence of certain low-level properties, but they supervene on the presence of some low-level properties. I have argued that three visual structural phenomenal properties—the boundedness of the visual field, its feature-filled character, and its oriented character—are likely to possess these characteristics.[2]

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