Philos Stud
DOI 10.1007/s11098-017-0884-7

Does hallucinating involve perceiving?

Rami Ali[1]

Abstract A natural starting point for theories of perceptual states is ordinary perception, in which a subject is successfully related to her mind-independent surroundings. Correspondingly, the simplest theory of perceptual states models all such states on perception. Typically, this simple, common-factor relational view of perceptual states has received a perfunctory dismissal on the grounds that hallucinations are nonperceptual. But I argue that the nonperceptual view of hallucinations has been accepted too quickly. I consider three observations thought to support the view, and argue that all three are dealt with equally well by an alternative view, illusionism, on which hallucinations do involve perception. Since this is so, adopting a common-factor relational view of all perceptual states remains a tenable option.

Keywords Hallucinations · Perception · Misperception · Illusionism · Relationalism · Naïve realism · Common-factor · Philosophy of perception · Philosophy of mind

This paper benefitted from the feedback of my dissertation committee members, Otavio Bueno, Elijah Chudnoff, Simon Evnine, and Susanna Schellenberg, all of whom helped shape my view. The thorough comments of an anonymous reviewer at Philosophical Studies also helped clarify the paper's argument and organization. Finally, the members of New York University Abu Dhabi's Normativity conference in February 2016, and the members of the American University of Beirut's philosophy department also contributed with their comments to my presentation on part of this paper.

✉ Rami Ali
rami.elali@gmail.com

[1] Department of Humanities, Lebanese American University, P.O. Box 13-5053, Chouran, Beirut 1102 2801, Lebanon

Published online: 21 February 2017

1 Relationalism and hallucinations

A natural starting point for theories of perceptual states, states which include both perceiving and misperceiving, is ordinary perception.[1] Cases of perception are those in which a subject successfully perceives her mind-independent surroundings. When such is the case, it is natural to think of perception as constitutively involving a conscious, sensory relation between the subject and her surroundings, in which those surroundings look, appear, or are presented in some sensory way to the subject. We can call this relation *perceptual contact*. On this view, perception is, at least primarily, a matter of perceptual contact with worldly objects, where a worldly object is a particular object or event that is part of the material and mind-independent world. This would be a *relational* view of perception.[2]

As I see it, the simplest, and perhaps most naive theory of perceptual states simply generalizes the intuitive characterization of perception to all perceptual states, giving us:

> *Relationalism*[3] The property of a perceiver being in a perceptual state is identical to the property of a perceiver being in perceptual contact with some worldly object(s).[4]

Despite its simplicity, relationalism is a fairly robust view. It is compatible with at least two difficult observations about perceptual states: first, that one and the same object can appear in a variety of ways; and second, that an object's appearance can mislead us about the way that object is (as occurs in cases of perceptual illusion). Neither observation requires a denial of one's perceptual contact with worldly objects, at least this seems to be the growing consensus.[5] And intuitively, this is plausible. A round plate looks oval shaped from the side, but nothing about its appearance requires denying that it is *that* real world plate that we see. Intuitively, we see that plate, and that plate looks this way from here. The same is true in cases of misleading appearances. The Müller-Lyer lines look unequal in length, but nothing about their appearance forces us to think that it is not *those* very lines that

[1] In what follow I use 'perceptual state' rather than 'perceptual experience'. A perceptual state is one part (the perceptual part) of a subject's total experiential state. I do this as a matter of convention, as I think neither perceptual state or perceptual experience are clearly defined in everyday use.

[2] This is an overally brief characterization of relationalism. Much more can be said, and has been said, to explain what the distinctive relation of perceptual contact amounts to. For more, see e.g. Campbell (2002), Fish (2009), Brewer (2011), and Genone (2014).

[3] 'Relationalism' is typically used to describe a view of veridical perceptual states, or states of perception. I use the term in a broader sense throughout (unless otherwise stated), applying it to all perceptual states, and not just veridical ones.

[4] Here I characterize relationalism as involving the identification of perceptual states with states of perceptual contact with worldly objects. But weaker construals of the view are possible. For instance, one can take perceptual states to constitutively involve perceptual contact with objects without being identical to such contact. I adopt this construal for ease of exposition, nothing in what follows rests specifically on accepting the stronger identity commitment.

[5] For instance, see Fish (2009), Brewer (2011), and Genone (2014).

we see. We seem to see the lines themselves even if, under the circumstances, their appearance is misleading.

Relationalism, however, has typically received a perfunctory dismissal on the grounds that it cannot deal with a certain class of misperceptions, hallucinations. Hallucinations are thought to be more radical than the above cases because they are thought to occur in situations that preclude perceptual contact with worldly objects. A hallucinating subject might experience objects and properties even when there are no appropriate worldly objects to be related to in her vicinity. Or, she might experience objects or properties in situations that seem to altogether preclude perceptual contact (as occurs, for instance, in Charles Bonnet Syndrome, where blind subjects undergo visual hallucinations). If hallucinations are genuinely cases of misperception that involve no perceptual contact with worldly objects, then relationalism cannot be true of all perceptual states.

The current philosophical climate makes it tempting to think that these observations about hallucinations, when adequately elaborated, suffice to undermine relationalism. But this is a mistaken conclusion to draw, or so I will argue. The fact that in hallucinatory cases it is difficult to see how the state involves the objects in the hallucinator's surroundings does not show that hallucinations do not involve perceptual contact with the world (and thus, that relationalism is mistaken). The apparent difficulty is equally well accommodated by a view on which hallucinations constitutively involve perceptual contact with worldly objects (i.e. perception).[6] Whatever differentiating features hallucinations have can be accounted for by appeal to features added onto perception. The extra constituents could distinguish hallucinations from perceptions if, when coupled with perceiving, they explain the difficulty of relating the state to the objects it puts us in contact with.

Indeed, there are various candidates for additional constituents. One possibility is that the additional constituent is an obfuscating state which occurs only alongside states of perceiving. The result of entering such a state would be the formation of false beliefs, and inappropriate attitudes and behaviors towards what we otherwise successfully perceive.[7] Another possibility is that hallucinations involve the perception of worldly objects, but additional features of the experience lead to distortions in the object's appearance. Illusion are like that. An object is perceived, but the object has a misleading appearance due to conditions obtaining in the experience. Whatever we might think of these solutions, they are options that might be seriously considered by the relationalist. So, the difficulty of finding hallucinatory objects cannot count decisively against the view; relationalists have some maneuvering space. The problem is that as the debate has proceeded, hallucinations have not been taken to differ in only these innocuous ways.

My aim here is to argue that relationalism, as a theory of all perceptual states, is in a much better dialectical position than has thus far been assumed. This is so in two ways: first, the view cannot be dismissed in a perfunctory fashion. The

[6] Throughout I use 'perception of x' and 'perceptual contact with x' interchangeably. More generally, as I understand it, relationalism is the view that all perceptual states involve perception. .

[7] This position is similar to Fish's (2009), although Fish does not require that the obfuscating state be coupled with perceiving.

resources it can draw on to explain hallucinations place it in at least as strong a position as the alternatives. Second, the view is independently appealing. It preserves a commonsense view of perception, and it provides a common factor treatment of perceptual states. In this sense, the view carves a middle way between disjunctive relationalism and common-factor representationalism, and so combines their appealing features.[8]

I develop my argument for relationalism in six sections. Section 2 isolates *the nonperceptual view of hallucinations* which drives the quick rejection of relationalism by denying that hallucinations involve perception. Section 3 introduces three broad ways of understanding misperception, and argues that one of these, *illusionism*, rejects the nonperceptual view. Sections 4 through 6 deal with three problems facing the illusionist account of hallucinations. Section 4 focuses on the first two problems. The first maintains that hallucinations are independent from their surroundings because they are not plausibly understood as appearances of the surrounding objects, while the second maintains they are independent because they do not systematically vary with the surroundings. Section 5 introduces the third problem, that of accounting for hard cases of hallucination, which are cases that purport to show that illusionism is false in principle. Section 6 responds to these cases, and Sect. 7 concludes the discussion by repositioning relationalism dialectically.

2 The nonperceptual view of hallucinations

Philosophers typically distinguish hallucinations from perception, but also from illusions. Unlike hallucinations, which are thought to 'cut us off' from out surroundings, illusions are typically thought to be cases of misperceiving that involve perception, albeit in a distorted manner. This is clear in the following glosses:

> Smith (2002): "In illusion, although a physical object appears other than it actually is, that very object is really perceived; in hallucination, "that" physical object does not exist." (p.191)
> Siegel (2012): "In a hallucination, perceptual contact is missing; illusions are misleading guides to what is in the environment" (p.34)
> Genone (2014): "Philosophers usually divide misleading perceptual experiences into two categories: hallucinations—understood as experiences which lack a mind-independent object of awareness, and illusions—understood as experiences in which perceived objects appear to have properties they in fact lack." (p.25)

From the fact the hallucinations differ from perceptions and illusions, it does not follow that they differ in not being constituted by perceptual contact with worldly objects. Illusions also differ from perception, but like perception, they constitutively involving perceptual contact with worldly objects. Moreover, even if we grant that

[8] I say more about the connection between disjunctivism and relationalism, and representationalism and common factor views below.

hallucinations are differently constituted, at most this provides us with a negative characterization. It does not tell us how they differ, only that they do. Some theories (for instance, Martin's 2006; Hellie's 2013) have embraced the idea of characterizing hallucinations negatively. But in practice, even these noncommittal views begin by reacting to an implicitly accepted minimal, but positive, characterization of hallucinations. This is the idea that (at least some cases of) hallucination cut us off from the surroundings. If perception puts us in contact with the surroundings, and hallucinations cut us off from them, then hallucinations cannot involve perceptual contact with the surrounding objects, and are thereby not cases of perception. We can call this widely accepted view, which separates hallucination from perception in this way, *the nonperceptual view of hallucinations:*

> The Nonperceptual View: Hallucinations do not involve (and are thereby not cases of) perception.

The nonperceptual view has had a strong impact on the philosophy of perception. When coupled with the possibility of hallucinations, the view opens an easy route to rejecting relationalism. In addition, the view is implicit in a central disagreement within the contemporary philosophy on perception—between common factor and disjunctive views of perceptual states—and it has shaped our extant theories of hallucination.

Consider first the debate between disjunctive and common factor views of perceptual states.[9] These views disagree on whether all perceptual cases are similarly constituted. Disjunctivists deny that all cases share a fundamental characterization, while common factor theorists accept this. But the way these strategies has been deployed makes sense only if we assume the truth of the nonperceptual view. Disjunctivists are typically seeking to preserve a commonsense relational view of perception.[10] Because they accept the nonperceptual view, they think that hallucinations do not involve perception, and so reject relationalism as a theory of all perceptual states. But to preserve relationalism about perception, they separate their characterizations of hallucination and perception by appealing to a disjunctive metaphysics.

Like disjunctivists, common factor theorists also accept the nonperceptual view. Without that commitment, common factor theorists could easily accept relationalism for all perceptual states, as that would be the most straightforward common factor theory. Relationalists about perception would have little reason to oppose them if they did, since both views would preserve the commonsense picture of perception. But common factor theorists typically proceed by assuming the falsity of relationalism, and instead seek a common core that falls short of perception (for instance, they might accept a common representational core).

Next consider the nonperceptual view's impact on contemporary theories of hallucination. If we assume the nonperceptual view, then any theory of hallucinations must begin by denying hallucinations some feature of perception, rather than adding further components to perception. Some views deny the relationality of

[9] For more, see e.g. Pautz (2010) and Haddock and MacPherson (2011).

[10] For instance, see Martin (2006) and Brewer (2011).

hallucinations. Kennedy (2013), for instance, argues that since the concept of phenomenal character does not 'cut perceptual states at the joints', relationalists can accept that hallucinatory states possess their character through the possession of a nonrelational property (for instance, their possessing a certain content). Others accept that hallucinations are relational, but deny that they involve relations to worldly objects. Instead, hallucinations are thought to relate us to *extraworldly objects,* objects other than the ordinary particulars of the mind-independent world. One example is Russell's (2001) view in *The Problems of Philosophy*, where hallucinations involve relations that terminate in sense-data. Another is Johnston's (2004), on which hallucinations relate us to uninstantiated properties. Finally, some views simply deny that hallucinations are relevantly perceptual. On more extreme variants, hallucinations are wholly denied a sensory phenomenal character.[11] For instance, Martin's (2006) view characterizes hallucinations through their epistemic indiscriminability from cases of perception (and thus without appeal to phenomenal character), and Fish's (2009) view identifies hallucinations with beliefs and behaviors that typically arise out of perception (though hallucinations are nothing but these generated effects). More moderate variants do not altogether deny hallucinations a sensory phenomenal character, but only the specific character of perception. Macpherson (2013), for instance, discusses a view on which hallucinations have a quasi-phenomenal character due to the sensory imagination, and/or memory.

3 Dualism, hallucinism, and illusionism

Must we accept the nonperceptual view of hallucinations? I will argue that we need not. Contemporary philosophy is committed to *misperceptual dualism* (henceforth, dualism), the view that misperception compromises perception in two fundamentally distinct ways. While illusions involve perception, hallucinations do not. This view shapes contemporary debates, but if we turn to the early modern period, we see a different way of understanding misperception. The early moderns did not sharply distinguish between cases of illusion and hallucination. As such, both cases were thought to show that we are not in perceptual contact with ordinary worldly objects, but with intermediaries.[12] This early modern view is an example of what I will call *misperceptual monism* (henceforth monism), the view that all cases of misperception compromise perception in the same way. Though early modern monism does not reject the nonperceptual view, it does suggest an alternative that does. One might adopt monism by characterizing *both* illusions and hallucinations as cases that do not involve perceiving (as the early modern philosophers did), or accept that *neither* illusions nor

[11] I add 'sensory' to distinguish the type of phenomenal character typically associated with perceptual states from other types of phenomenal character, such as cognitive phenomenal character. In the remainder of the essay, I will usually omit 'sensory', since I do not discuss other types of phenomenal character.

[12] For instance, both Descartes' evil demon case (which is a case of hallucination) and Hume's argument from illusion were thought to establish that we do not have direct experience of the mind-independent world.

hallucinations compromise our perceptual contact with worldly objects.[13] If we call the early modern view *hallucinism* for treating illusions as contemporary philosophy treats hallucinations, we can call the alternative *illusionism,* since it treats hallucinations as illusions are currently treated. Both are monist theories of misperception, but illusionism rejects the nonperceptual view. And while the truth of misperceptual monism is independent from the truth of the nonperceptual view, the presence of illusionism indicates that the logical landscape for theories of misperception readily accommodates theories that reject the nonperceptual view. Whether we accept illusionism as a monist theory of misperception or not, we can accept an illusionist theory of hallucination, on which hallucinations involve perceptual contact with the surroundings, and are thereby cases of perception.

Illusionist theories of hallucination might not be common or intuitive, but they have received more attention recently, particularly from relationalists about perception. At least three philosophers have adopted illusionist views of varying strength (though none of the authors explicitly uses the label 'illusionism'). Alston (1999) considers three illusionist proposals in defending the theory of appearing: that hallucinations involve relations to the empty space in which a hallucination is located, to the air in that location, or to one's own brain. Similarly, Watzl (2010) argues that we should accept an illusionist theory for all hallucinations. Most recently, Raleigh (2014) has argued that causally matching hallucinations should be understood as involving perceptual contact with worldly objects. In addition, both Chalmers (2005) and Gallagher and Zahavi (2012) have defended philosophical views that suggest an illusionist treatment of envattment cases (more on this below). Chalmers articulates a version of illusionism in arguing that 'The Matrix' does not present a skeptical scenario, and Gallagher and Zahavi endorse illusionism by way of defending an embodied picture of the mind.

A defense of an illusionist theory of hallucinations requires various interrelated arguments.[14] Here, however, I will only undertake a basic line of defense. I will not argue that the illusionist view is preferable to the nonperceptual view. Instead, I will argue that we have little reason to resist illusionism. In the following sections I consider three observations thought to support the rejection of an illusionist theory of hallucinations. I will argue that upon closer examination, each of these turns out to be compatible with illusionism. Since this is so, we have little reason to prefer the nonperceptual view over illusionism about hallucinations.

4 Inappropriateness and non-systematic variation

Relationalism construes perceptual states as involving perceptual contact with the surroundings. But on the face of it, a relation to the surroundings falls short of explaining how things appear to the subject. This is because the same object can

[13] One can also accept other types of monism. For instance, an anonymous reviewer has noted that illusions and hallucinations look identical from the contemporary viewpoint if all one is concerned with is perceptual contact with properties.

[14] I discuss some of these in my dissertation, El Ali (2014).

appear in different ways. A plate looked at from the from the side has an oval appearance, but from the top, a circular one. Relationalists must account for this feature of perceptual states. Typically, the way they have done this is by taking the subject's point of view into account.[15] For instance, Campbell (2002) writes

> Experience, on the Relational view, is not a two-place relation…it is a three-place relation between the perceiver, the scene perceived, and the point of view from which it is perceived. If we had only the two-place relation… that would not allow us to differentiate an object being touched from an object being seen, or an object being viewed from one angle from the same object being viewed from another angle."(p. 36)

Once the point of view is taken into account, it becomes possible to draw a distinction between what the subject is in perceptual contact with, how things appear to her, and how such appearances can be misleading or result in perceptual error.[16]

The first two arguments against the illusionist view emerge in the context of relating hallucinatory appearances to the objects the hallucinator is related to. Broadly, the two arguments seek to show that hallucinatory states cannot be experiences of the hallucinator's surroundings. The first argument depends on what I will call the *inappropriateness* observation. According to this observation, hallucinations cannot be of the surrounding worldly objects (and so cannot involve perceptual contact with those objects), because in many cases, the objects the hallucinator is related to are inappropriate to the hallucinatory appearance. For instance, a subject might hallucinate what appears to be a white dragon while being in perceptual contact with a red plate. Plausibly, a red plate cannot appear as a white dragon, so the object the hallucinator is related to is inappropriate to the hallucinatory appearance.

To better understand the notion of inappropriateness in play, it is helpful to consider the classic sense-datum inference. According to this inference, if things appear F to the subject, the subject must be related to some object that is F. So according to the sense-datum inference, only an object that is at is appears can be appropriate to the perceptual appearance. If, for instance, an object appears green and triangular, only an object that instantiates the properties of greenness and triangularity will be appropriate to the appearance. If, by contrast, the subject is related to an object that lacks either property e.g. a red or green round object, then the subject cannot be perceiving *that* object, since that object cannot explain the green triangular appearance.

The sense-datum inference places a highly restrictive condition on perceptual states. And while the inference is now largely unpopular, a similar but weaker restriction still seems operative in denying that hallucinations involve perceptual contact with the surroundings. The problem is that it is not clear what sort of

[15] For more on this, see Campbell (2002), Brewer (2011) and Genone (2014).

[16] For a detailed discussion of the relationship between perceptual states, objects, appearances, and perceptual error, see Genone (2014). I also provide a brief discussion of the relationship between appearances, phenomenal character, and perceptual states in the following section.

restrictive condition is supposed to help demarcate what is and isn't appropriate in this way. The most plausible restrictive conditions fail, even in veridical and illusory cases. This is clear if we consider different plausible proposals. Though the proposals I list below are not exhaustive, and so do not demonstrate a principled bar on finding an acceptable restriction, they do show that some very plausible candidates fail. Absent alternatives, we have little reason to accept that hallucinations are inappropriate to their surroundings in a way that demonstrates their independence from them.

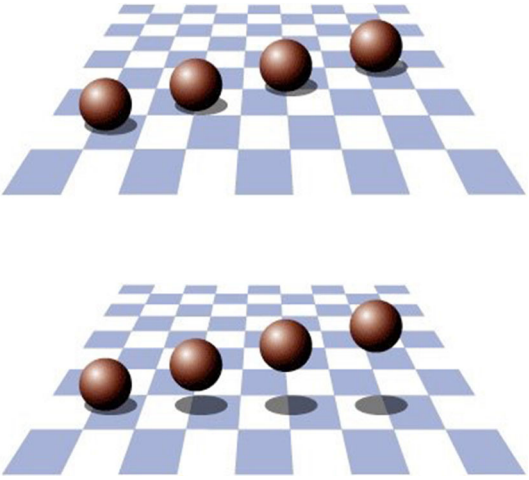
Consider a first proposal:

KIND: If an object appears to be of kind K, the subject must be related to some object that is of kind K.

Unlike the sense-datum inference, KIND does not require that an object instantiate every property it appears to have, the object must merely be of the right kind. But like the sense-datum inference, this principle is implausible. Consider a visual state as of a lemon. If this proposal is right, then only a lemon, or perhaps a fruit, can be the object we are in perceptual contact with in the state. But this is false. The state might equally be of a plastic decoration, yellow lights projected on a lemon shaped cardboard cutout, or a wax lemon. So KIND cannot be met even in cases of perception. An alternative proposal is this:

LOCATION If an object appears to be located at L, the subject must be related to some object that is located at L.

Though weaker than KIND, this proposal fares no better. An object need not be located, either spatially or temporally (much less both), in the place it is presented as being. Starting with spatiality, consider the following image:



Where these spheres appear to be located depends on where their shadows are located. But shadows can be misleading. Consider the shadows of the lower image.

They look like they are cast by the spheres we see. However they could equally be cast by a straight line of horizontally placed spheres right under the light source and out of view. The same light source might also eliminate or relocate the shadows of the visible spheres. If this were to happen, we would take the spheres to be located at different heights (as in the lower image) even if they are positioned as they are in the first image. The image below depicts a case roughly like that, the shadow of a flag out of view is mistakenly attributed to the surface on the sand, leading us to mislocate it.[17]

The object need not be in a specific temporal location no more than it needs to be in a specific spatial location. A good example comes from the time-lag argument. A perceiver looks at the night sky and sees a star. But this star has long since perished. Plausibly, the perceiver is seeing a perished star, and this is a case of temporal mislocation. The star seems to exist now, but in fact does not. Similar comments apply to temporal mislocation due to the speed of sound, e.g. the lag we experience with thunder.

The object appropriate to a given appearance is not constrained by kind or spatiotemporal location. What about other properties? Consider a third and more general proposal:

> PROPERTY: If an object appears to have properties P1…Pn, the subject must be related to some object that possesses an adequate number of the properties P1…Pn.

PROPERTY is a weakened version of the sense-datum inference, it maintains that objects must possess only some, rather than all, of the properties they appear to have. Nevertheless the proposal is mistaken. A first problem is that of specifying what counts as an adequate number of properties. Even if this problem can be solved in a principled way or by stipulation, there is little reason to think PROPERTY will

[17] Though I focus on vision, this also carries over to other senses. For instance, in auditory stereo illusions, the sound appear to move around even though its source does not. A readily available online example is the Barbershop illusion.

succeed. The reason is that the properties objects appear to have vary radically depending on the viewing conditions, and it is conceivable that an object might share little to no properties with its appearance. Adopting the right spatial perspective can cause objects to appear larger or smaller than they are (as occurs in Ames Room), so objects need not appear the size they are. The medium and viewing angle can also distort object shapes (as when a partly submerged pen looks bent), so objects need not appear to have the shape they have. Similarly for the color of an object, which varies with lighting conditions. In addition, what properties an object appears to have on a given viewing is partly dependent on the properties the subject can discriminate, or be receptive to. Those differ in a single individual, across individuals, and across species. Thus it is highly unlikely that an object will always possess some requisite number of the properties it appears to have.

One might respond by limiting the number of properties required, either arguing that a small intersection of properties is sufficient, or that one shared property is. But neither response is satisfactory. A plane looks like a speck in the distance, though a speck and a plane share almost no (perceivable) properties in common, so even a minimal intersection of properties is too demanding. Furthermore note that if only a single property is shared, this amounts to giving up the argument, since few if any objects will count as inappropriate to their appearance.

A possible rejoinder to these worries is to argue that when too few properties are shared, we are no longer perceiving the object.[18] This, however, requires a change in the way 'perceive' is commonly used. If you see a speck in the sky and are asked "Do you see the plane?" the natural response is 'yes', since the speck in the sky is the plane, as is clearly revealed when it gets closer. It would be implausible to maintain that you do not see the plane despite seeing the speck. More plausibly you do not see the plane's features, or that the speck is a plane, but the plane itself is clearly seen, since the speck is clearly seen. That the speck does not share properties with the plane is simply not a convincing reason to deny that one perceives the plane.

Once we accept that PROPERTY fails, it should become clear that little remains by way of restrictive proposals. Perhaps a final attempt is this:

> NUMBER: If there appears to be a certain number of objects N, the subject must be related to a certain number of objects N.

But even this minimal proposal is false. There are cases in which a multitude of objects appear as one, and conversely, cases where one object appears as many. For instance, in the Hurwitz Singularity installation, a group of objects are organized in a way that makes them appear as a single object.[19] Conversely, a single object, such as the paper in the image below, might appear as many (in fact, the jewels are merely careful drawings):

[18] Michael Huemer, for instance, has suggested this in discussion.

[19] The Hurwitz Singularity installation was brought to my attention in a discussion with Alex Byrne.

If each of the above proposals is violated in some case of perception and/or illusion without establishing that perceptions and illusions are independent from their surroundings, there is little reason to think that failures of the same sort establish any more in cases of hallucination.

This brings us to the second argument against the illusionist view. While the first argument focused on the apparent inappropriateness of the surrounding objects, this argument focuses on the non-systematic relationship between hallucinatory appearances and the object the hallucinator is related to. The argument begins by observing that hallucinatory appearances do not usually vary systematically with the objects the subject is related to. Things might appear to be in motion to the hallucinator despite her still surroundings, or might appear still despite her moving surroundings. This is unlike cases of perception and illusion. A change in a cup seen results in a change in its appearance. Similarly, erasing or drawing the arrows of the Müller-Lyer lines systematically affects the illusion's appearance (without the arrows, the lines seem equal, with them, unequal). If hallucinations are unlike perceptions and illusions in this way, the argument goes, it is reasonable to maintain that they do not involve perceptual contact with the surroundings.

The observation of non-systematic variation in hallucinations suggests that we should infer (b) from (a):

(a) Hallucinations do not systematically vary with the worldly objects perceived.
(b) Hallucinations do not involve a relation to the worldly objects perceived.

But this inference is mistaken. Though some perceptual cases manifest systematic variation, others do not. Consider a subject who looks at a red and green wall, while her capacity to discriminate red from green is failing. Imagine that as the capacity transitions to total failure, it alternates between functioning normally at one moment, and completely failing the next. During the transition, we might expect that though the subject looks upon the unchanging wall, the appearance of the wall will constantly vary. It does not vary with the wall, but with how well her capacities

are functioning. The wall will appear to have two colors when her discriminatory capacity is functioning, and only one color when it is not. The reverse situation is also possible: the wall could alternate between one or two colors, but these variations might go undetected if the perceiver's capacities function and fail to in synchrony with the wall's changes. Whatever is happening in these cases, it seems farfetched to infer, from the fact that the wall's appearance does not systematically vary with the wall and its properties, that the subject is not seeing the wall. At most we might say that the subject is in illusory perceptual contact, or in contact with more or less of the wall before her.

One might think that the above argument cannot also apply to non-color properties such as, for instance, size and shape. But this impression is also mistaken. For size, consider an animated version of the Ebbinghaus illusion, where a sphere of a fixed size appears to shrink and expand depending on the size of the spheres surrounding it. In this case, the sphere's apparent size varies without the object's size varying. For shape, consider a subject that passes her hand over a table's side by way of experiencing the straightness of its edge. Though the edge is straight, the subject might experience it as perforated or gappy. This could happen if the receptors at the tips of her fingers fail systematically as in the above wall case. Imagine that the receptors proceed from being normally stimulated, to being highly stimulated, to receiving little to no stimulation, before being highly stimulated again. The resultant experience, as the subject moves her hand across the edge, would be to first feel the straightness of the edge normally, then to feel a sudden spike in stimulation, followed by no stimulation, and then another spike before the stimulation returns to normal. Given the pattern, the subject's experience would seem to be of moving her hand across a straight edge with holes in it. She misperceives the spike in stimulation as a corner, then the absence of stimulation as a gap, followed by another corner from the spike in stimulation.

Such cases suggest that it is generally possible to construct non-hallucinatory experiences that involve nonsystematic variation. Since in these cases we cannot infer (b) from (a), it is hard to see why we should in the corresponding hallucinatory cases. It is plausible that hallucinations involve aberrant changes in the hallucinator's perceptual capacities, and it is also plausible that variations in the complexity of these failures could affect how erratic a given hallucination seems.[20] So, even if hallucinations do not vary systematically with the surroundings, this does not show that they are not experiences of those surroundings.

5 Pure, total, and perfect hallucinations

Though inappropriateness and non-systematic variation cannot be used to establish that hallucinations involve no perceptual contact with the surroundings, this is unlikely to convince an opponent of the illusionist view that all, rather than some, hallucinations involve perceptual contact. Philosophers typically distinguish different types of hallucinations, and it is widely agreed that some variants are

[20] For some examples of the conditions under which real hallucinations occur, see Sacks (2012). For a more technical discussion, see Ffytche (2013).

particularly problematic for relationalism, in many cases warranting their own solution.[21] These hard cases require a further response from the illusionist who thinks hallucinations are relational in the way perception is.

Hard cases of hallucination are picked out in a variety of ways. One way is to distinguish between *impure* and *pure* hallucinations as Fish (2009) does. Fish argues that unlike impure cases, pure cases are "hallucinations that take place in the absence of any background experience of the world"[22] and "will therefore not have an acquaintance-based phenomenal character."[23] A related way is provided by Genone (2014), who distinguishes between "the hallucination of one or more non-existent objects in an otherwise normally perceived scene (a *partial* hallucination); and second, the hallucination of an entire scene, such that the subject's experience bears no relation to her actual environment (a *total* hallucination)."[24] A final way involves distinguishing a class of causally matching or *perfect* hallucinations.[25] Soteriou (2016) writes "It is theoretically possible, by activating some brain processes involved when a subject genuinely perceives the world, to cause a hallucination subjectively indistinguishable from that perception—a 'causally matching' hallucination".[26]

Though pure, total, and perfect hallucinations are formulated differently, they share two important commonalities. First, all three cases are introduced to serve the same dialectical purpose of showing that relationalism cannot be an adequate view of all perceptual states. Second, they are thought to serve this purpose because they are purportedly cases that involve no perceptual contact with the surroundings. Both pure and total hallucinations are described as cases that are independent in this way. Fish (2009) cashes this out in terms of phenomenal character, maintaining that if pure hallucinations possesses a phenomenal character (though Fish ultimately denies that they do), they do so in a way that does not depend on perceptual contact with worldly objects.[27] This construal, however, might be thought too specific.[28] While it would be odd to deny any connection between perceptual contact with an object and a state's phenomenology,[29] there are relational views that do this.[30] For

[21] Smith (2002), Fish (2009), Genone (2014), and Raleigh (2014).

[22] Fish (2009 p. 93).

[23] Fish (2009, p. 93).

[24] Genone (2014 p. 360) (emphasis mine).

[25] Raleigh (2014), for instance, calls causally matching cases perfect hallucinations.

[26] Soteriou (2016).

[27] Fish understands pure hallucinations as he does because on his view relationalism involves identifying a state's phenomenal character with the property of acquainting the subject with a given object's presentational character.

[28] For instance, see Genone (2014) pp. 343–344.

[29] It would be odd to deny this because perceptual contact involves objects appearing some way to the perceiver, and so denying the involvement of perceptual contact in a state's sensory phenomenal character involves denying that objects appearing some way constitutes at least a part of a state's phenomenal character.

[30] For instance, see Schellenberg (2016), who denies that the sensory character of perceptual states is (even partly) constituted by the particulars perceived (though particulars are constitutive of perceptual states in other ways).

these views, even perception lacks an acquaintance-based phenomenal character. In response to this, we might adopt Genone's total hallucinations, which do not stipulate a specific link between perceptual contact and phenomenal character, instead generally denying any relation between hallucinations and the surroundings.

By contrast to pure and total hallucinations, which are described in terms of the absence of perceptual contact, perfect hallucinations are described by appeal to an alternative that does not require perceptual contact. If it is possible to produce states that are subjectively indistinguishable from perception by the mere activation of internal processes, then perceptual contact cannot be necessary for such states. The requirement of subjective indistinguishability makes the category of perfect hallucinations in some ways broader than that of pure and total hallucinations, but in other ways narrower. The category is broader because one might think there are nonperceptual states that are subjectively indistinguishable from perception (e.g. both Martin's and Fish's views of hallucination deny that they have a sensory phenomenal character like perception does), but narrower because one might think that hallucinations are perceptual even if they are not subjectively indistinguishable from perception. Hallucinations might possess a sensory phenomenal character that differs from that of perception (e.g. they might have the sensory character we associate with imagining, memory, or dreaming) and so might not be indistinguishable from perception, or they might present us with objects that perception cannot present e.g. they might present objects with contradictory properties, as is thought to happen in the waterfall illusion.

If there are pure, total, and/or perfect hallucinations, it would be implausible to deny that at least some cases of hallucination are inappropriate to, and do not systematically vary with the surroundings. Such hallucinations do not involve perceptual contact with the surroundings, and so preclude any systematic relations to them. Any appearance of appropriateness or systematicity is at best a coincidence, in the way veridical hallucinations are thought to coincidentally match the hallucinator's surroundings. These cases therefore pose a third challenge for the illusionist committed to denying the nonperceptual view of hallucinations.

6 Dealing with hard cases

Though some hallucinations are indeed harder to explain from an illusionist perspective, I will argue that the view has the resources to deal with these cases. For our purposes, we can define a class of *hard hallucinations* in relation to pure, total, and perfect cases. Such hard cases will include only hallucinations with a perceptual character, rather than any subjectively indistinguishable state, since here our focus is on hallucinations as a specifically perceptual phenomena. Second, hard hallucinations need not be subjectively indistinguishable from perception, since this will allow us to include perceptual hallucinations that are, for one reason or another, distinguishable from perception. Third, hard cases include only those cases that do not involve perceptual input in any sense modality. This is because cases that lack perceptual input in some but not all sense modalities might be reconstrued as

involving inputs through crossmodal interaction.[31] So, unlike pure cases, hard cases do not build in the connection between perceptual contact and phenomenal character. Unlike total cases, they explicitly require a lack of perceptual inputs in all sense-modalities. And unlike perfect cases, they are constrained to states with a perceptual character, though not necessarily an indistinguishable character.

I will argue that contrary to appearances, hard cases either involve perception, or else are not cases of hallucination at all. Schematically, these cases can be approached in one of two ways. The first strategy is to begin with easier cases, then point out relevant similarities to harder cases, and in so doing make it plausible that the analysis of easier cases can be extended to harder ones. Here I will appeal to Watzl's (2010) *smooth transition* argument, which seeks to show that all hallucinations are constituted in the same way veridical perception is. Certain complications with Watzl's argument will require turning to a second strategy, that of considering hard cases in themselves, rather than attending to their similarity to easier cases.

At least two observations lend plausibility to the idea that harder cases of hallucination can be analyzed as other cases can. First, it may be argued that different cases are similarly constituted because hallucinations of different types are phenomenally indistinguishable. Just as common factor theorists think that the indistinguishability of veridical and hallucinatory states makes a case for accepting a common core to perceptual states, so the illusionist can take the indistinguishability of different hallucinations to lend plausibility to the idea that they share a common factor. Since easier cases are relational, so are harder ones.[32] This strategy, however, has two shortcomings. One is that hard cases might not be phenomenally indistinguishable from easier cases. Another is that the inference from phenomenal indistinguishability to a common factor has often been rejected by disjunctivists.

But even without appealing to phenomenal indistinguishability, it is reasonable to think that different types of hallucinations lie on a single continuum, and that there are no differences in kind between them. Fish (2009), for instance, thinks that pure hallucinations do lie on a continuum with other cases

> As we become more inclined to classify situations as cases of hallucination, the influence of the layout of the environment will disappear altogether and the explanation of why the false beliefs occur will have only a correlate of the cognitive disorder component. At the end of this continuum, we find pure hallucinations … (p.171)

[31] Examples of interactions between different senses abound in the literature. Some cases involve interference between inputs from two functioning sense modalities e.g. the McGurk effect, the ventriloquist effect, and the sound induced flash illusion, amongst others. Others, like some cases of synesthesia, involve inputs from one modality being processed in two modalities (e.g. an object heard might be experienced auditorily and visually). Finally, some cases involve the stimulation of one sense modality generating and experience in another. For instance, vestibular stimulation causes amputees to hallucinate phantom limbs, even when they have not experienced phantom limbs before (Lopez et al. 2012). Another study (Dieter et al. 2014) shows that at least half of its participants reported sensory awareness of their bodies, when in full darkness, plausibly because of crossmodal interaction.

[32] An argument of this sort is proposed and defended by Raleigh (2014).

If hallucinations lie on a continuum, one may argue that they are similarly constituted on the grounds that there is no natural stopping point between different cases. If one end of the spectrum is relational, the other end will be too.

While Fish (2009) does not infer a similarity of constitution from the existence of a continuum, Watzl (2010) does. Watzl (2010) argues for a uniform analysis of hallucinations by way of defending his relationalist picture, on which all perceptual states involve perceptually attending to particular, spatiotemporally located, material objects and events. Against the argument from hallucination, he develops a 'smooth transition' argument which extends the treatment of veridical cases to hallucinatory ones. Watzl (2010) writes

> Contemporary philosophers often consider the bad cases in isolation from the good cases. There is a tomato present in the good case, while there is no tomato present in the bad case. Thus, they reason (using something like the spatiality principle), there is something to attend to and be aware of in the good cases, while there is nothing to attend to in the bad cases. But that is a mistake. There is a smooth transition from the good cases to the bad cases, i.e. a continuum of intermediary cases that lead from the good case to every bad case. Someone who rejects attentional relationism would have to find some point in that transition where our perceptual attention ceases to have an object, where the perceptual relation ceases to obtain, and where we thus step from attending to something to merely seeming to attend to something. (p.242)

The smooth transition argument only establishes that different perceptual states are alike, but when coupled with relationalism about perception, it entails that hallucinations involve perceptual contact with worldly objects. The argument proceeds through four basic types of scenarios, arguing that there is no nonarbitrary line one can draw between adjacent cases[33]:

> Type 1: cases of being perceptually related to a tomato.
> Type 2: cases of being related to objects that are qualitatively identical to a tomato. These range from ordinary solid objects (e.g. a wax tomato), to exotic objects such as light projections or perceptible magnetic fields.
> Type 3: cases of being related to 'diffuse' objects, objects with parts located in different places, but arranged in such a way (with the help of lenses, prisms, and other light dispersing objects) so as to appear as a single object, a tomato, before one.
> Type 4: cases of being related to progressively closer stimuli, first moving closer to the retina, then becoming direct stimulations of the retina, and finally penetrating the perceiver's body and becoming direct stimulations of various inner parts.

If no nonarbitrary line can be drawn between adjacent cases, then it cannot be that some states relate us to worldly objects while others do not. The difference must therefore lie in what we are in perceptual contact with, not in whether or not we are

[33] Watzl (2010, p. 243).

in perceptual contact. What we call hallucinatory cases are just cases that relate us to worldly objects that are unusual in certain ways.

Is the smooth transition argument a sufficient response to the problem raised by harder cases of hallucination? Watzl does not directly address this. He focuses on extending the analysis of veridical cases to hallucinatory ones, rather than the analysis of some hallucinatory cases to others. However, Watzl clearly intends his view to apply to all hallucinations, since he does not exclude any hallucinatory cases from the smooth transition. When we consider these scenarios, it is clear that the first three involve ordinary perceptual contact, albeit with unusual worldly objects. When we turn to the fourth type, we see that the cases in this category conclude by introducing a new type of perceptual contact, one that takes place between the perceiver and an object *internal* to the perceiver's body. Watzl accepts these internal objects because he rejects 'the externality principle', which states:

> (THE EXTERNALITY PRINCIPLE) *Necessarily*: *If* you are *perceptually* attending to an object or event, *then* that object or event is part of your external environment. (p.253)

In defense of his rejection, Watzl writes:

> As the smooth transition argument shows there is no clear line between what is external to the subject's body and what is inside her body. Is, for example, the vitreous humor (the clear gel inside the eyeball) internal or external to the subject's body? It seems completely arbitrary to say that whether there is something you attend to depends on whether photons are, say, randomly created inside or outside this gelatinous body. (By straightforward generalization the same seems to hold of all other lines one might draw). (p.254)

Watzl is right to point out that what counts as external to the subject's body is somewhat arbitrary for a certain range of objects. One might still think there are clearly internal cases and clearly external ones, but all Watzl's argument needs is some internal objects we can perceptually attend to, since these can serve for different hard hallucinations. Watzl is also right to reject the externality principle itself, as it is not clear why one should think that we are unable to perceptually attend to objects that are internal to the body, and perhaps also internally generated by the body. At least two examples come to mind: seeing one's eyelids, which are internal to the body; and seeing phosphenes, which are internal to our visual apparatus, and in some cases generated internally.[34]

But even if we grant the arbitrariness of the externality principle and reject it, without more details on the nature of the internal objects being stipulated, it is hard to evaluate the adequacy of this proposal. This is because there are certain *prima facie* worries that arise when using internal objects to defend a view like relationalism, which seeks direct perceptual contact with the world. The problem is that if hallucinations involve the perception of internal objects, then such objects might interfere with ordinary perception. They could occlude external objects,

[34] Davis et al. (1976).

mediate our access to them, or explanatorily screen off their role, if they sufficiently determine the state's phenomenal character without the need for external objects. Alternatively, they suggest the existence of a relation distinct from perceptual contact, one that involves contact with internal rather than external objects. So, without saying more about these internal objects and how we can be related to them, it is hard to see whether Watzl's argument provides a plausible response to the problem of hard hallucinations.

Before turning to the problem raised by the use of internal objects, it should be noted that Watzl's argument is adequate for some cases of hard hallucination. Many hard cases involve an appeal to envatting machinery, evil demons, or other entities external to the subject that feed the subject perceptual information. Watzl's smooth transition argument suggests an answer to these types of cases, since such cases can be plausibly construed as perceptions of unusual external objects (e.g. an envatting apparatus), proximate objects (e.g. light projections on the envatted subject's retina), or superficially internal ones (e.g. electromagnetic objects placed on the brain's surface). The first two cases clearly do not raise worries about internal objects, while the last appeals to internal objects that are well understood (they are ordinary external objects that penetrate the subject's body), and exclusive to envatting scenarios.

The type of response to evil demon or envatted brain cases suggested by Watzl has been developed in the literature. Chalmers (2005), Gallagher and Zahavi (2012), and most extensively, Raleigh (2014) all dispute that such cases establish independence from the mind-independent surroundings. In disputing the skeptical significance of the *The Matrix* and related scenarios, Chalmers (2005) argues that the Matrix scenario can be understood as a metaphysical hypothesis. He writes

> The Metaphysical Hypothesis here tells us about the processes underlying our ordinary reality, but it does not entail that this reality does not exist. We still have bodies, and there are still chairs and tables: it's just that their fundamental nature is a bit different from what we may have thought. In this manner, the Metaphysical Hypothesis is analogous to a physical hypotheses, such as one involving quantum mechanics. (p.135)

Similar, Gallagher and Zahavi (2012) write

> The brain-in-the-vat thought experiment actually shows that perception and action do require some kind of embodiment. Even the pure brain-in-the-vat requires absolutely everything that the body normally provides – for example, sensory input and life support. (p.131)

Most recently, Raleigh (2014) says this in defending a relationalist conception of perfect hallucinations

> […] we are supposed to imagine that the machine caused the lemon-looking experience, but that the experience is not of the machine — we do not have (direct) visual awareness of the machine. I suggest that a relational theorist should resist this conception and contend instead that in such scenarios we

> would indeed be having a visual experience of some aspect or feature of the mind-independent machine. (p.13)

Though these responses seem right to me, they do not show that no hallucinations violate the illusionist's commitment. Both Chalmers (2005) and Raleigh (2014) acknowledge this in considering a 'chaos hypothesis'. Raleigh (2014) writes

> Presumably it is in some sense possible…that the photoreceptors in the eye…might begin to fire even though they have received no readily identifiable prior stimulus…presumably it is possible…that such random firings precisely match the pattern of firings that would occur were the subject to see a lemon. But in such a hypothetical case there would be no equivalent of the machine or demon to be a candidate object of visual awareness—the subject, or the disembodied brain, is perhaps just floating in empty space. So there would be, by hypothesis, exactly the same neural activity as in a perceptual visual experience but with absolutely no candidate object of awareness in the environment. (pp. 23–24)

Chalmers and Raleigh think that this sort of case poses a special problem, since there is by stipulation nothing to be related to. Chalmers (2005), who has epistemic considerations in mind, thinks that chaos cases—at least when there is no reasonable explanation of the regularities in the experience—are genuine skeptical scenarios, unlike other cases. Raleigh (2014) admits that these cases pose a special problem, and suggests four possible solutions specific to the chaotic situation: first, rejecting that this brain enters an identical perceptual state. Second, rejecting the relevance of the case. Third, adopting disjunctivism for these cases alone. And fourth, arguing that they are equally problematic for representationalists.

To extend the illusionist response, it is helpful to switch strategies at this point, and consider the remaining hard hallucinations in isolation, rather than through their relation to easier cases. In doing this it will be easier to consider how one might respond to cases like the chaos scenario, which seems to suggest that either there are no objects to be related to, or only internal (and internally generated) objects. To confine ourselves to hard cases, it will be useful to appeal to Ocular, a hypothetical, purely visual being who is otherwise similar to humans. Plausibly, Ocular undergoes a hard hallucination when it hallucinates in any of the following conditions:

1. Eyes Shut: Ocular's eyes are closed. When they are, no light from the outside enters.
2. Dark Room: Ocular is in a completely dark room.
3. Blindness: Some part of Ocular's visual system is damaged, and it can see nothing.
4. Surgery: Ocular's entire visual system is surgically removed.

In each of these conditions, it is reasonable to suppose that Ocular is not in perceptual contact with its surroundings. And, since Ocular is a purely visual being, these hallucinations cannot be due to crossmodal interference. I will argue that contrary to the initial impression, the first two scenarios are plausibly understood as requiring perceptual contact, while the last is not a case of hallucination. The third

case remains underspecified. Under some interpretations, it is like cases (1) and (2), in others it is like case (4).

To begin with, note that in cases (1) and (2), Ocular is still a being with sight. It does not lose its vision because it cannot see under its current conditions, no more than we do. But should we think that Ocular is in perceptual contact in these cases? I maintain that the answer is yes. Ocular is in perceptual contact with its dark surroundings, amongst other things. This is clear if we begin by noting a difference between the *absence of perception*, in which a subject lacks the capacity to perceive, and the *perception of absence*, in which a perceiving subject is related to a 'null' perceptual input. Ocular's case in situations (1) and (2) is of the latter type. Ocular does not lack visual capacities, nor is it in a state where these capacities are inactive. It is merely surrounded by darkened objects. In (1) it is in perceptual contact with its eyelids which occlude external light, and in (2) it is in perceptual contact with the room which is entirely unlit. In both cases, Ocular's surroundings (its eyelids, and the room) look a particular way, they are completely dark. This makes them indistinguishable from Ocular's perspective. In general, we might say that all things that are entirely unlit look alike, and are thus plausibly indistinguishable. So in cases (1) and (2), when we say Ocular 'cannot see', we do not mean that it is not in perceptual contact with its surrounding. We mean that it is unable to discriminate any of the details in its surroundings except for one: that everything is dark.

One might think this is not right. Ocular is not in perceptual contact with anything in (1) and (2), it is not in perceptual contact with its dark surroundings. While the perception of absences is a broad issue that cannot be fully dealt with here, there are at least three types of reasons for thinking this objection against (1) and (2) is mistaken.[35] First, the distinction between the perception of absence and the absence of perception is an intuitive one. We readily understand the difference between possessing a sense of sight under unfavorable conditions, and altogether lacking the sense of sight. This is a distinction we should preserve. Second, Ocular's state shares various features we associate with states of perceiving. Typically perception informs about our surroundings, makes us sensitive to changes in them, and provides us with the capacity to visually attend to different parts of our surroundings. In (1) and (2), Ocular's state fulfills each of these conditions. Ocular is clearly informed about its surroundings since it is aware that they are dark. In addition, it is sensitive to changes in them. For instance, in (1), Ocular will notice if if its shut eyes are opened slightly (provided the scene outside is not equally dark). In (2), if an unlit box occluding a pinhole light is removed from Ocular's line of sight, or the lights are turned on, Ocular will notice the change perceptually. Finally, Ocular is also able to visually attend to different parts of the darkness around it. It can turn its eyes to look at this or that part of the room, or this or that side of its eyelids. By focusing on a specific part, it can detect variations in the darkness, or notice a dim light once in its periphery but now clearly seen. Of course as long as the darkness is uniform everything will continue to look the same for Ocular, but this is because all dark objects look alike.

[35] For a detailed discussion and extended defense of perceiving absences, see Sorensen (2008).

That Ocular perceives its darkened surroundings is made more plausible by comparing situations of type (1) and (2) to similar situations involving 'positive' stimuli ganzfelds. Consider Ocular's state of perceiving a uniformly colored and textureless surface. For instance, we can imagine a room full of objects designed and lit in such a way that no part looks any more or less white, or textured, than the other. In that room, Ocular's state is similar to that of being in a dark room. It can see the room's uniform whiteness, it is sensitive to changes in the room, and it can attend to different parts of the room, even if everything looks the same. Indeed, any ganzfeld case in which the perceiver is related to an environment dominated by one uniform quality throughout (whether this is a single sound, taste, color, etc.) puts perceivers in a state like the one generated by the perception of absence. The only difference lies in the nature of the properties perceived. In lit ganzfeld cases, the properties are 'positive' stimuli, whereas in darkness the ganzfeld is of 'null' stimuli. The idea that we perceive darkness and other types of absences, like silence, is also not new. In his *An Essay Concerning Human Understanding* (Book 2 chapter 8 section 3), Locke writes "the idea of black is no less positive in his mind than that of white, however the cause of that colour in the external object may be only a privation." More recently, Sorensen (2008) has argued that we perceive many different types of absences in all the senses, and Phillips (2013) has argued that we hear silence.

The perception of absence helps the illusionist explain hard cases of hallucination because of the role the perception of absence can play when explaining Watzl's suggestion that we perceive internal objects. By appealing to the perception of absence, we can explain how internal objects can appear in some cases but not others. We can see this by introspecting on our dark experiences. In a wholly dark room or with perfectly shut eyes, objects in our surroundings are uniformly dark, but out experience of the darkness is not. Attending to the surrounding darkness, we see phosphenes strewn across our perceptual field, they make patterns and shapes, shift location, appear and disappear, and so on. Significantly, these stimuli, and their changes, are ones we can perceptually attend to. They are perceptually salient properties in our visual state. We can choose to focus on the shimmers in one particular location, ignore them by focusing on the background darkness, or turn our focus to shimmers in another location. Moreover, we can manipulate these phenomena. By moving our eyes, putting pressure on them, staring at bright lights, or getting up quickly, we can affect the vivacity and qualities of these ephemeral objects. Importantly, these phenomena are not exclusive to null states. They are present even in ordinary perception. We can attend to them more easily in various situations, for instance when staring at a plain blue sky, lacking sleep, or sitting up too quickly.

As I understand them, phosphenes and related phenomena, are internal objects, or at least events that internal objects undergo. They are suitable for an illusionist account of pure cases for at least three reasons. First, they are fleeting in a way ordinary external objects are not, and this helps explain the erratic character of many real hallucinations. Second, these phenomena are features of our perceptual systems, and this makes them readily available as objects of perception. Third, and most importantly, they are not always or even usually perceptually salient. That their

salience varies helps explain why they do not get in the way of ordinary perception. In darkness, the perceptual impact of phosphenes (are related phenomena) changes. The reason for this is that in ganzfelds in general, and dark ganzfelds in particular, there is very little else to attend to. When we are looking out into the world there is a large number of stimuli that compete for our attention. The world is littered with objects, these objects are shaped, lit, textured, produce heat, sounds, and smells. Each of these features can be attended to. Ganzfelds, by contrast, are a perceptual desert. In them we perceive nothing but the uniformly distributed property, only broken up by the occasional flickers of our perceptual systems. In undergoing such ganzfelds, it is much easier to attend to these fleeting internal phenomena. A dark room makes them salient, as does a plain white wall. Moreover, by focusing our attention on them, we impact their appearance. Just as focusing one's attention on a particular voice in a crowded room makes what is being said by that voice clearer, and just as objects in the center of our vision appear more detailed than those in the periphery, so these sensible but internally generated objects take on more detailed form when we attend to them. They can appear to have shapes and colors, to move in a particular pattern, or grow brighter or dimmer.

By appealing to the perception of absences and these features of our perceptual systems, we can solve the worries raised by Watzl's argument. Phosphenes and related phenomena need not occlude, mediate, nor screen off the surroundings. They do not occlude them because such phenomena's salience is partly dependent on how much is going on in the perceiver's surroundings, and it is when little else is going on that they become most salient. Nor do they mediate our perception of objects in any way that requires denying that we perceive worldly objects directly. And they also do not explanatorily screen off the surroundings, because the surroundings being perceived in a particular way is a precondition for the emergence of these phenomena. Finally no relation distinct from perceptual contact need be stipulated, since the perception of absences involve perceptual contact with (darkened) external surroundings.

A helpful way to think about this illusionist proposal is to combine two metaphors, one given by Campbell (2002), and another recently cited by Ffytche (2013) from the 1950s psychiatrist, Louis Jolyon West. Campbell describes relationalism as thinking of brain processing on the 'pane of glass model', which he contrasts with the 'television model'. On the glass model, the function of brain processing is to make the highly volatile glass transparent. When the calibration is successful, the glass becomes transparent, and we perceive the world directly. When it is not, we either do not perceive, perceive features of the now non-transparent glass, or else perceive our surroundings poorly.[36] Campbell's metaphor helps understand ordinary perception, but West's metaphor, used in the context of defending a 'release theory' of hallucinations, helps extend Campbell's tale to hallucinations in specific (and without any commitment to the release theory). Ffytche writes:

[36] This sort of calibration is apparent if we think about a case of walking into a regularly lit room from the sunlit outdoors. It usually takes our eyes a few seconds to adjust our perception of the room, and prior to that the room looks more dimly lit than it is.

> West provided the analogy of a man looking out of a window from a room containing a fire. In bright sunlight (analogous to sensory input), the man sees only the world outside; however, as night begins to fall, the man begins to see things inside the room reflected on the glass. While the fire burns brightly (analogous to cortical arousal), the man sees the contents of the room as if they were outside the window, but when the fire dies down he sees nothing. (p. 155)

What is nice about this metaphor is that it gives us a way of thinking about how usually non-salient features of perceptual states might become perceptually salient under certain conditions. The idea is that these feature are always present, but not always perceptible. Campbell's metaphor explains that the glass's transparency allows the outside world to show. West's extends the metaphor by noting that as the world is drained of its features, as happens in ganzfeld cases, features of the glass or the processing behind it might become perceptible. When these features do become perceptible, we can attend to them, and in so doing intensify their salience. Indeed, we have empirical reason to associate ganzfelds with hallucinations.[37]

This brings us to the final two cases. Unlike the first two, case (4) is not a case in which Ocular perceives a null stimulus, but rather a case where it altogether lacks perception. This is clear since Ocular lacks a visual system, and so cannot process anything visually. But Ocular's lack of a visual system also impacts its capacity for visual hallucinations. Imagine that Ocular reports visually hallucinating in (4). Should we accept its report at face value, or should we be more inclined to attribute confused or false beliefs to it? *Prima facie,* Ocular is barred from visual states since it lacks the requisite visual mechanisms. As a result, it is likely that it is confused rather than hallucinating.[38] This is clear if we compare Ocular's belief that it is visually hallucinating to a human's belief that it is undergoing echolocation hallucinations. If a human lacks an echolocation system, intuitively she cannot be undergoing echolocation hallucinations. At best, she may be deluded into thinking that she does. Similarly so for Ocular, it is not hallucinating in (4), but deluded.[39]

This leaves Ocular's hallucinations in case (3). The situation here is harder to assess, but this is because it is underspecified. How illusionists should analyze this case depends on the extent and type of damage to Ocular's visual system. At one end, we would expect Ocular's visual system to suffer from pervasive damage, making it incapable of any relevant visual processing. Such cases would be like case (4), involving neither perception nor hallucination. At the other end, Ocular's blindness would be only superficial. Ocular would maintain its capacity to visually process its surroundings, but be barred from doing so normally because of the damage. Ocular might instead be placed in perceptual contact with impoverished, dark surroundings, or with surroundings that are otherwise unusual (for instance,

[37] For instance, see Wackermann et al. (2008)

[38] Here I am bracketing the fact that Ocular's previous perceptual states might somehow inform it visually e.g. via memory, since we can conceive a case in which Ocular is unnaturally born without a visual system.

[39] In my view, Fish's (2009) account of pure hallucinations reduces them to what are more aptly called delusions. Delusions are cognitive rather than perceptual (like hallucinations), though they certainly affect the way we understand and conceptualize our perceptual world.

features of a burn on the surface of its eyes). Such cases would be like (1) and (2). Between these two extremes we can expect many variations, and it would be difficult to say, in advance of the details, whether each case can be dealt with satisfactorily. Nevertheless, illusionists can still say the following: many, if not all, of these intermediary cases will involve the gradual diminishing of visual discriminatory capacities. As each capacity fails (for instance the capacity to distinguish shapes, colors, edges, faces, and so on), Ocular will be able to discriminate less and less, even in its darkened surroundings (for instance, it might cease to see blue phosphenes with the loss of its capacity to discriminate blue). But all such cases would be like (1) and (2), they would be cases of perceiving absence. If there are cases that differ from these, and that call illusionism into question, then the burden is on skeptics to produce particular examples. Without specifics, it is hard to see why we should assume illusionism incapable, since it is clearly capable in other cases.

The explanation of cases (1) through (4) helps provide an illusionist answer to the case of chaotic hallucinations. Chaotic cases, like other cases, should be understood as just as just one more case on the smooth transition spectrum Watzl envisions. The way they differ from other cases is that they arise out of spontaneous causal replication. But the state randomly causally replicated is just the state of putting the subject in perceptual contact with her current surroundings. This is clear if we recall Campbell's metaphor. For relationalists, the function of the brain's perceptual processing is to make features of the surroundings transparent to the perceiver, rather than generating mental representations of these features. This means that for relationalists, replicating a neural state, even randomly, is replicating a state that makes the surroundings transparent to the perceiver. If the surroundings are a void, then upon randomly entering the relevant state, the hallucinator is related to the void before her. In this sense, the chaos hypothesis is just a case of perceiving absence.

A final objection might be given to this response to chaotic hallucinations. Chaotic cases, it might be thought, do not merely involve dark or otherwise idiosyncratic surroundings, rather, they are cases that involve *stipulating* the inadequacy of the surroundings. If relationalists think that brain processing only makes the surroundings transparent, and in chaotic cases the surroundings are stipulated to be inadequate, then illusionists have not really explained chaotic hallucinations relationally. While this is true, it is unclear that a stipulation of this sort is acceptable. First, it is not clear that this sort of stipulation is part of what we conceive in the chaos case. Second, if it is, then illusionism is mistaken apriori. The problem is that even if one thinks illusionism can be dismissed in an apriori way, this way of doing so is costly. It forces us to accept a surprising conclusion. Specifically, it is an empirical matter whether one of our brain's functions is to provide a full-blown perceptual experience through its own spontaneous activity, and without any requirements on the inputs coming in from the world. But this seems to be decided affirmatively, and in a apriori way, when we stipulate the inadequacy of the surroundings. We would be maintaining that our brains can enter full-blown perceptual states regardless of environmental inputs, and merely through one's own internal activity. Not only is it unacceptable to decide an empirical hypothesis apriori, but it is also something we have little empirical support for. Our

best experiments at most show that we can generate experience with the help of the external stimulations applied to patients, and this leaves it open that we perceive those very stimulations.

7 Relationalism and the illusionist theory of hallucinations

I have argued that the contemporary philosophy of perception has accepted the nonperceptual view of hallucinations, on which hallucinations do not involve perception, too quickly. Because of this, relationalism, the view that all perceptual states involve perceptual contact with worldly objects, has received a perfunctory dismissal. However, an alternative illusionist theory of hallucinations allows us to maintain that hallucinations do involve perceptual contact with the surroundings. I have argued that this alternative is tenable. We have little reason to think that any of our basic observations about hallucinations establish that hallucinations are independent from their surroundings. That what we hallucinate is inappropriate to the surroundings does not establish a lack of perceptual contact. Nor is this established by the fact that hallucinations do not systematically vary with the surroundings. And finally, even the hardest cases of hallucinations do not establish this.

If an illusionist theory of hallucinations is tenable, then the nonperceptual view of hallucinations is not a view that relationalists about perception must accept. So *prima facie,* there is no obstacle to tentatively generalizing a relational treatment to all perceptual states. Relationalism as a theory of perceptual states is typically dismissed on the grounds that its commitment to a common factor is incompatible with the nonperceptual view of hallucinations, but the illusionist theory shows that this quick dismissal is premature. Of course the arguments provided here do not constitute a full defense of the illusionist view of hallucinations, nor of relationalism. But what they do show is that illusionism about hallucinations is a tenable view, and that relationalism as a theory of perceptual states is too. Once we accept this starting point, much remains to be done. The arguments here make it plausible to think that hallucinations are relational, but they do not explain how, or by virtue of what, hallucinations differ from perceptions. Moreover, various features of hallucinations remain mysterious. Intuitively hallucinations put us in contact with things that are 'not there' in a way that perceptions and illusions don't. Hallucinations are also taken to be private in a way perceptions are not. Such features require an explanation from the illusionist perspective, but the explanation must wait for a different time.

References

Alston, W. P. (1999). Back to the theory of appearing. *Philosophical Perspectives, 13*(s13), 181–203.
Brewer, B. (2011). *Perception and its objects*. Oxford: Oxford University Press.
Campbell, J. (2002). *Reference and consciousness*. Oxford: Oxford University Press.

Chalmers, D. (2005). The matrix as metaphysics. In C. Grau, (ed.) Philosophers explore the matrix (p. 132), Oxford: Oxford University Press.
Davis, F. A., Bergen, D., Schauf, C., McDonald, I., & Deutsch, W. (1976). Movement phosphenes in optic neuritis: a new clinical sign. *Neurology, 26*(11), 1100–1104.
Dieter, K. C., Hu, B., Knill, D. C., Blake, R., & Tadin, D. (2014). kinesthesis can make an invisible hand visible. *Psychological Science, 25*(1), 66–75. doi:10.1177/0956797613497968.
El Ali, R. (2014). Illusionism: Making the problem of Hallucinations disappear. Open Access Dissertations. Retrieved from http://scholarlyrepository.miami.edu/oa_dissertations/1325.
Ffytche, D. (2013). The hallucinating brain. Neurobiological insights the nature of hallucinations. In F. Macpherson & D. Platchias (Eds.), *Hallucination* (p. 45). Cambridge: MIT Press.
Fish, W. (2009). *Perception, hallucination, and illusion* (1ST ed.). Oxford: Oxford University Press.
Gallagher, S., & Zahavi, D. (2012). *The phenomenological mind*. London: Routledge.
Genone, J. (2014). Appearance and illusion. *Mind, 490,* 1–38.
Haddock, A., & Macpherson, F. (2011). *Disjunctivism: Perception, action, knowledge*. Oxford: Oxford University Press.
Hellie, B. (2013). The multidisjunctive conception of hallucination. In F. Macpherson & D. Platchias (Eds.), *Hallucination* (p. 333). Cambridge: MIT Press.
Kennedy, M. (2013). Explanation in good and bad experiential cases. In F. Macpherson & D. Platchias (Eds.), *Hallucination* (p. 333). Cambridge: MIT Press.
Lopez, C., Schreyer, H.-M., Preuss, N., & Mast, F. W. (2012). Vestibular stimulation modifies the body schema. *Neuropsychologia*, *50*(8), 1830–1837.
O'Callaghan, C. (2008). Seeing what you hear: cross-modal illusions and perception. *Philosophical Issues, 18*(1), 316–338.
Pautz, A. (2010). *Why explain visual experience in terms of content? In perceiving the world*. Oxford: Oxford University Press.
Phillips, I. (2013). Hearing and hallucinating silence. In F. Macpherson & D. Platchias (Eds.), *Hallucination* (p. 333). Cambridge: MIT Press.
Raleigh, T. (2014). A new approach to "perfect" hallucinations. *Journal of Consciousness Studies, 21*(11–12), 81–110.
Russell, B. (2001). *The problems of philosophy*. Oxford: Oxford University Press.
Sacks, O. (2012). *Hallucinations*. New York: Alfred A. Knopf.
Schellenberg, S. (2016). Perceptual particularity. *Philosophy and Phenomenological Research*, *93*(1), 25–54.
Siegel, S. (2012). *The contents of visual experience*. Oxford: Oxford University Press. **(Reprint)**.
Smith, A. D. (2002). *The problem of perception* (1st ed.). Cambridge: Harvard University Press.
Sorensen, R. A. (2008). *Seeing dark things: The philosophy of shadows*. Oxford: Oxford University Press.
Soteriou, M. (2016). The disjunctive theory of perception. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Summer 2016). Retrieved from http://plato.stanford.edu/archives/sum2016/entries/perception-disjunctive/.
Wackermann, J., Pütz, P., & Allefeld, C. (2008). Ganzfeld-induced hallucinatory experience, its phenomenology and cerebral electrophysiology. *Cortex; A Journal Devoted to the Study of the Nervous System and Behavior, 44*(10), 1364–1378. doi:10.1016/j.cortex.2007.05.003.
Watzl, S. (2010). The significance of attention. Columbia University. Retrieved from http://gradworks.umi.com/34/47/3447994.html. *50*(8), 1830–1837. doi:10.1016/j.neuropsychologia.2012.04.008.