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## **The Philosophy and Psychology of Hallucination: An Introduction**

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Few phenomena have played such a vital role in shaping philosophical theories as hallucination, particularly theories in philosophy of mind, perception, and epistemology. When the ordinary man or woman in the street thinks of hallucination, a drug-fueled bizarre perceptual experience is conventionally what springs to mind. The traditional philosophical conception of hallucination encompasses such experience but is broader. The traditional philosophical conception includes perceptual experiences, identical in nature to experiences that could be had whilst perceiving the world, save only that they are had whilst not perceiving.<sup>1</sup> Such experiences might be ones that conform to the conventional conception of hallucination. One might, when hallucinating, have an experience of the sort that one would have were pink and green spiders to be crawling over the text that you are reading. However, they might also be perfectly mundane and be just like the visual experience I expect you are having now when reading this page. This mundane form of hallucination is particularly important in philosophy, as philosophers have often contemplated whether all of one's perceptual experiences to date could have been hallucinatory. Might you be the subject of mass deception,

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<sup>1</sup> As I explain in more detail in section one, I use “perceive” as a success verb to indicate perception rather than hallucination, but I use “perceptual experience” to name the kind of state that occurs in both perception and hallucination. Thus note that hallucinations—states not involved in perceiving the world—are nonetheless typically referred to as “perceptual experiences”. I follow that usage in this introduction.

carried out by an evil daemon or by aliens who are artificially stimulating your brain, trapping you in a merely simulated world? In addition, this philosophical conception makes room for experiences that, were the subject to take them at face value, would seem to be perceptual experiences but could never be had when perceiving, at least when perceiving accurately, simply because the world could never be as the experience presents it to be. For example, it might be possible to hallucinate colours that do not and could not exist in the world.<sup>2</sup> Or it might be possible to hallucinate a geometrically impossible spatial configuration<sup>3</sup>

Although the consequences of the existence of hallucination have been much explored and debated, alternatives to the traditional philosophical conception of hallucination have, until recently, received little attention. However, two emerging strands of research have brought to light other conceptions of hallucination. One of these is scientific evidence about people who actually hallucinate. Evidence from psychology, neuroscience, and psychiatry has shed light on the functional role and physiology of actual hallucinations. The second strand is the development of a philosophical theory of perception known as disjunctivism. Some disjunctivist theories have as part of their ontology a radically new and different conception of hallucination.

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<sup>2</sup> See Crane and Piantanida (1983). One might think that such “novel” colours are not just not actual but impossible if one held an objective physicalist view of colours such as that endorsed by Byrne and Hilbert. They claim, “The best description of a world with a very different physics from our own is that in such a world objects merely look coloured” (1997, p. 282, footnote 8). Furthermore, see ffytche (this volume), who describes anecdotally patients describing their visual hallucinations of colours as being more vivid than those encountered in nonhallucinatory visual experience.

<sup>3</sup> One can have illusory experiences that seem to represent “impossible figures”, such as those frequently depicted by Oscar Reutersvärd and M. C. Escher paintings, such as the impossible tribar. Examples of the kind of experience I have in mind are those had when looking at specially created three-dimensional objects that, viewed from the right position, give one experiences that seem to represent three-dimensional geometrical impossibilities. See Macpherson (2010a). If one hallucinated such an object, it would be an experience that could not be had when perceiving the world accurately.

Once these different conceptions of hallucination are made clear we can then compare and contrast them. We can ask whether there is or could be any evidence to think that some of them, or all of them, exist or could exist. And we can try to determine whether the traditional debates about the upshot of the existence, or possible existence, of hallucination are transformed by these differing conceptions.

Reflection on these different notions of hallucination has the potential to transform many traditional debates in philosophy concerning the nature of the mind, perception and our knowledge of the world. It has the potential to radically alter our approach to, and answers to, traditional philosophical concerns about knowledge and the mind. In addition, clarifying the different conceptions of hallucination will be of value to scientists when they are trying to determine the nature of hallucination in patients, and to clinical medics who are trying to treat them. The nature of hallucination is therefore of great philosophical, theoretical and practical importance.

These are the issues that the essays in this book engage with. They are written by philosophers of many stripes and by scientists. In this introduction, I aim to achieve a number of goals. I wish to provide an introduction for scientists, philosophers, and other academics who want to understand the philosophical debate about perception and hallucination. I aim to explicate a few of the scientific findings for philosophers and others unfamiliar with the relevant empirical results. I hope to add to the debate by explaining how I think the scientific results impact on philosophical concerns and how philosophical theory should impact on the interpretation of the scientific results. Finally, I aim to explain the fundamental difference between the view of perception called disjunctivism and the more traditional common-kind view, and I will explore reasons to favour one or other of two different views of hallucination: the common-kind conception and the strict disjunctive conception that the theories advocate. I also explore other conceptions of hallucination and the reasons one might have for thinking they exist.

To that end, I first outline the traditional conception of hallucination and provide an overview of the consequences often thought to follow from the existence of hallucination conceived of in this manner. In particular, I explain the constraints on theories of perception and perceptual experience that have been thought to follow from the traditional conception of hallucination, as well as the theories of perception and perceptual experience that conform to these constraints. In addition, I outline the challenge to empirical knowledge that the traditional conception of hallucination engenders. I then examine other notions of hallucination inspired by the latest scientific work and by disjunctivism. I consider to what extent there is, or could be, empirical evidence in favour of the existence of the different forms of hallucination or reasons to think that, even if not actual, such hallucinations are metaphysically possible. (Metaphysical possibility is to be contrasted with nomological possibility. “Nomological possibility” refers to what is possible given that the natural laws of this world are held fixed, such as the speed of light, the strength of gravity, and so on. “Metaphysical possibility” refers to what is possible not only in those circumstances but also in circumstances in which the natural laws differ from what they actually are.) I also explain what consequences the existence or possible existence of the nontraditional forms of hallucination may have on further philosophical theorizing about perception and knowledge. I finish by considering the different philosophical commitments that underlie different views of perception and hallucination and reasons to prefer one set over another.

## **1 Preliminaries**

In this section I outline some important terminological issues, conventions, and assumptions that are used in philosophy, which one needs to appreciate if one is to understand the debates that follow.

For the purposes of this essay, I assume a realist framework. Realism is a theory that makes both an ontological and an epistemological claim.<sup>4</sup> The ontological claim is that there exists a world that is independent from the concepts, thoughts, and beliefs that people do or may have. A slightly stronger version of the claim is that the world has a structure, which thought and belief aim to map or represent with more or less success. Thus with our thought and language we typically try to refer to objects, properties, and events that exist in the world (although of course, we sometimes knowingly refer to objects that do not exist, such as round squares or the fountain of youth). The realist epistemological claim attests to the at least partial success of the representation or mapping. We can and do have some knowledge of the mind-independent world and our discourse about the world can be and is sometimes is true.

Contrasting with realism, idealism in the philosophy of perception is a view that in a strong form says that the world is mind dependent, and is simply composed of one's own, and perhaps others' or God's, perceptual experiences. If one is an idealist, then one has to have a rather idiosyncratic view of hallucination. Cases of hallucination involve having perceptual experiences, and for the idealist, these also constitute the world, so there is no question of hallucinations differing from nonhallucinatory experiences by not matching the world or by not being linked to the world in the same way. So for the idealist, the experiences that we call hallucinations are simply the ones that don't occur in the regular patterns typical of nonhallucinatory experiences. For example, if one had a visual experience as of a pink rat materializing in front of one, and one couldn't feel it, smell it, or hear it, and no one else who looked had an experience of the rat, then one's visual experience as of the pink rat would be anomalous. Hallucinatory experiences, on the idealist view, are simply ones that do not conform to certain patterns of regularity, which our other experiences do. There is nothing over and above this that makes them

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<sup>4</sup> See Haldane and Wright (1993) and Haldane (1993).

different from nonhallucinatory experiences. According to the idealist, then, one could not be hallucinating all one's life in a completely coherent and regular fashion, for if one's experiences were like that, then, according to this theory, they would be, by definition, not hallucinations. However, I will set aside idealism from here on.

Now that a realist framework is assumed, I turn to consider some more specific issues about perception. Consider the fact that there are different senses. One can perceive in many different ways. One can perceive a strawberry by seeing it, touching it, smelling it, tasting it, and hearing it make a dull thud when it drops on the floor. In philosophy, the cases of perception typically discussed are cases of visual perception (seeing), and when hallucination is discussed, the paradigm case is visual hallucination. But, of course, one can have tactile, auditory, olfactory, and gustatory hallucinations too. In fact, one can have hallucinations connected with all the sensory modalities, not just the five well-known previously mentioned ones. For example, one could have proprioceptive or equilibrioceptive hallucinations. In the study of perception in philosophy, it is frequently assumed that whatever we say about the case of vision can be carried over unproblematically to the other modalities. This may be true in many cases; however, one ought to be wary of this assumption. In psychology, visual and auditory hallucinations are both common objects of study, but as we will see, psychologists often provide different accounts of visual and auditory hallucinations.

A number of terminological points now need to be explicated. First, it is standard in philosophical discussion to use the word "perceive", and its derivatives such as "see," "touch," "hear," and so on, as success verbs. For example, if one visually hallucinates that there is a dagger before one, one does not see a dagger before one. For one to see a dagger, not only would it have to seem visually to one as if there were a dagger before one, that is, have a visual experience as of a dagger, but one must also, in virtue of having that experience, be aware of some real dagger that exists (or possibly, in the case of looking at very distant objects such as stars, be

aware of some object that existed). Thus when one sees a dagger and when one visually hallucinates a dagger, one has a visual experience as of a dagger. But when one visually hallucinates a dagger, one does not *see* a dagger. When one hallucinates, one might, of course, think that one is seeing (although one need not, if one knows that one is hallucinating), and one might claim that one is seeing – but one would be wrong, according to this philosophical usage of the term. For example, in the Scottish play, when Macbeth hallucinates a bloody dagger floating in the air as he contemplates killing Duncan, he asks, “Is this a dagger which I see before me?” The correct philosophical answer would be “No, Macbeth. You do not see a dagger. You merely seem to see one. You are having a perceptual experience as of one, but you are hallucinating.” I will abide by this philosophical convention.

A second piece of terminology requiring introduction is “veridical hallucination”. Perceptual experiences are often thought to be more or less accurate. Consider, again, having a visual experience as of a dagger. If one is seeing a dagger, and seeing it as it is, then one’s experience would be, to this extent, accurate. In virtue of this, we might say that the experience accurately represents a dagger. In other words, it is veridical.<sup>5</sup> When one thinks of visually hallucinating a dagger, the kind of case that typically springs to mind is one where one hallucinates a dagger, but there is no dagger before one. In this case, the visual experience had whilst hallucinating represents a dagger, but it is inaccurate. How the experience represents the world to be is not how the world is. No doubt, the majority of actual hallucinations are like this.

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<sup>5</sup> Susanna Siegel (2006) has explicated at length the notion of accuracy and the notion of representation that is concomitant with it. Whether this is the notion of representation that everyone can agree experiences have, and whether there are other notions of representation that some people think apply to experiences, is a topic of much debate in modern philosophy of perception. In fact there is a debate about whether representation can be captured by accuracy or a seeming condition. See the essays in Hawley and Macpherson (2011), and for an overview see Macpherson (2011). See particularly Pautz (2011) and Travis (2004) for opposing views of different kinds to Siegel.

However, we should be careful not to define hallucination as inaccurate experience for two reasons. One is the possibility of the existence of cases of veridical hallucination, which will be discussed in this paragraph. The second is the existence of cases of illusory experience, discussed in the next. Veridical hallucinations occur when one hallucinates but when one's experience is accurate. For example, one could hallucinate a dagger as being in front of one, and completely unrelatedly and just by chance, there might really be a dagger of the very type that one is hallucinating in exactly the place where one hallucinates the dagger to be. Of course, in normal circumstances, the chances of such a case occurring would be extremely slim, but nothing rules out the possibility of such a case. Indeed, one can imagine such cases being deliberately brought about. Suppose you are prone to dagger hallucinations and have described to me in detail what the dagger you hallucinate always seems to look like. I might procure such a dagger, and the next time you hallucinate, I might place the dagger in front of you, thus making it the case that your visual experience accurately represents the world in front of you. Likewise, we can imagine a scenario in which I place a dagger in front of you and then cause you to have a hallucination that exactly represents such a dagger by feeding you a drug or directly stimulating your brain with electrodes or magnetism or in some other method that makes you hallucinate daggers of exactly that type. (While we don't think that neuroscientists can at present create such complex hallucinations, we do know that they can reliably cause visual hallucinations of certain basic types in people, and there seems no reason to think that in the future they will not possess such abilities.) These examples make the possibility of veridical hallucination clear.

A final terminological issue to bring to the fore is how the term "illusion" is used. Cases of illusion constitute the second reason we have not to define hallucinations as instances of inaccurate experience. While the case of veridical hallucination shows that inaccuracy is not a necessary condition for an experience



to be hallucinatory, illusion shows us that it is not sufficient. Illusions are typically defined in philosophy as occurring when one sees the world, or some object in the world, but one sees it inaccurately in some respect. For example, consider the Müller-Lyer illusion. The figure produces illusory perception because it produces an inaccurate experience in us of it. We see the lines in the figure, but we see them incorrectly. We have an experience that represents the top horizontal line as being longer than the bottom horizontal line, whereas in fact they are the same length.<sup>6</sup> A frequently cited fact about such cases is that the illusory experience persists even when one knows that the lines are of equal length, and knows that one is undergoing an illusion. As defined, when one has an illusory experience, one *is* perceiving the world – just inaccurately in one or more respects.

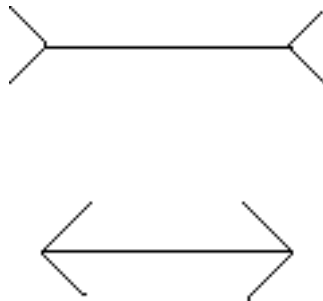


Figure 1.1: The Müller-Lyer illusion

In short, cases of perceptual experience can occur in three different conditions:

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<sup>6</sup> This is, at least, the standard view of illusions. An alternative view of illusions, inspired by a disjunctivist view of perception, is that in illusions we have accurate experience but form inaccurate beliefs about the world on the basis of that experience. Bill Brewer (2008) has articulated and defended this view, but we will set that view aside here. It is not obvious that Brewer's view should not be more accurately described as one in which there are no illusions, and that cases typically classified as such are ones in accurate, non-illusory experience is involved in perceiving the world together with inaccurate belief formation.

- (i) veridical perception: accurate perception of the world
- (ii) illusion: inaccurate (nonveridical) perception of the world
- (iii) hallucination: No perception of the world. Hallucinatory experiences will typically be inaccurate (nonveridical), but accurate (veridical) hallucinations are possible.

And when one is in each of these conditions, it is possible for one to (a) truly believe that one is in that condition, (b) falsely believe that one is in that condition, and (c) be agnostic about whether one is in that condition.

It is worth noting that there may be some instances of having a visual perceptual experience that are difficult to classify in practice. For example, sometimes it will be hard to know whether someone is having an illusory experience, or whether they are accurately perceiving the world but simply forming false beliefs about it despite their accurate perceptual experience.<sup>7</sup> Likewise there are some cases where it is not clear if one should classify what is taking place as a hallucination or an illusory experience. For example, consider the Hermann grid. When one's eyes roam across the grid, one has an experience as of grey squares appearing and disappearing on the white intersections between the black squares. Of course, one realises quickly that one's experience is not veridical. But is one inaccurately seeing the white intersections as grey – thus undergoing an illusion – or is one hallucinating grey squares, on account of the interaction of the grid with one's visual system? It is difficult to decide which is the right description of this case, but that difficulty does not stop the distinction between illusion and hallucination itself being clear.

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<sup>7</sup> See Macpherson (2012).

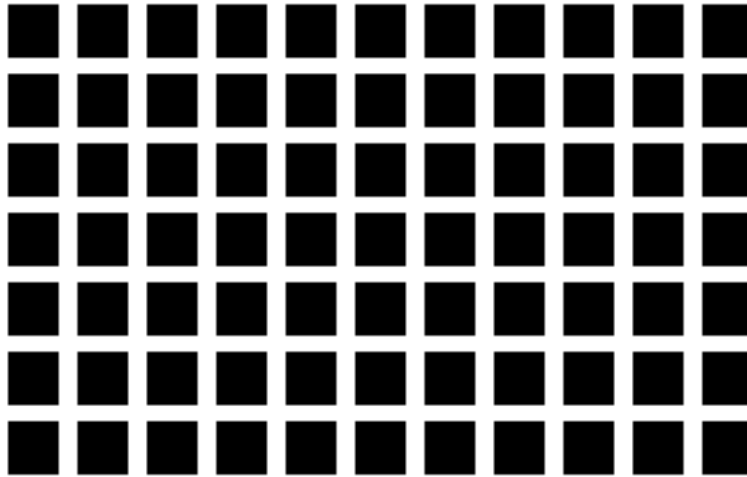


Figure 1.2: The Hermann grid

If it is right to think that the grey squares experienced when looking at the Hermann grid are hallucinatory, then this case brings out a feature of actual hallucinations not traditionally considered by philosophers. When philosophers talk of hallucinations, they typically imagine cases in which one's perceptual experience is completely hallucinatory. That is, they imagine that one is seeing nothing and that each element of one's perceptual experience is hallucinatory. In fact, in many hallucinations that actually occur, a subject's experience is only partially hallucinatory in the sense that some elements of the perceptual experience are hallucinatory, but others are not. For example, a subject might be seeing the room in which she sits, and doing so accurately, except for the fact that she is hallucinating a cat sitting on the carpet. Another case worthy of note is that which is often called "having an afterimage". If one stares at a patch of colour and then looks at a white surface, one has an inaccurate experience as of a patch of the same shape as the one stared at originally but in the complementary colour. Many philosophers would, I think rightly, count such cases as being cases of hallucination. If that is right then they are further instances of partial hallucinations, for one still sees the world when having an afterimage. While I will mostly discuss experiences that are total hallucinations, it is worth bearing such partial hallucinations in mind, in particular

when one is assessing different conceptions of hallucination and the theories of perception that are associated with each of them.

## 2 The Traditional View of Perception and Hallucination

The traditional view of hallucination is best explicated hand in hand with traditional views of perception and perceptual experience, which have recently come to be known as “common-kind” theories.<sup>8</sup> Let us start with the basic scientific facts about a typical case of perception, which all philosophical theories of perception (bar idealism) would be, and should be, happy to endorse.

In a typical case of seeing, light reflects off objects and enters our eyes, stimulating retinal cells. These cells are connected via the optic nerve to neurons in the brain that they in turn stimulate. Although neurons in many parts of the brain are stimulated in this way, a major neural pathway runs from the optic nerve, via the lateral geniculate nucleus, to the primary visual cortex, located towards the back of the head in the occipital lobe. The neurons in the visual cortex then go on to stimulate neurons in a large number of brain regions. During this process, arguably when the visual cortex is being stimulated, a visual experience occurs.<sup>9</sup> A visual experience is a conscious mental state, which is to say that there is “something that it is like” to be in that state, to use a well-worn phrase coined by Thomas Nagel (1974), and equivalently, it is to say that the state has *phenomenal character*.

What is the relationship between the brain states and the experience? Common-kind theorists say different things. According to some, brain states *cause* distinct perceptual experiences to come into existence – experiences that are

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<sup>8</sup> The “common-kind” terminology has only quite recently come to refer to a class of theories that share certain commitments that distinguish them from disjunctivism. Before disjunctivism’s recent entry into the philosophical scene, common-kind theories were the only theories in the literature, and there was no particular collective name for them as such.

<sup>9</sup> See Crick and Koch (1998).

themselves nonphysical states. Such people are committed to a form of dualism. According to others, some brain states somehow just *are* experiences. There are, broadly speaking, two versions of this view. One claims that the stuff that the brain is made of is important in explaining how this is so. Great disagreement divides theorists who advocate this sort of approach concerning what features of physical stuff are important. The second view claims that mental states are the states that they are in virtue of their functional role. To cite an overly simplistic example, a pain state might be any state that is typically caused by bodily damage and gives rise to desires to avoid the pain stimulus, which in turn give rise to avoidance behaviour. Brain states have functional roles too, and according to this theory, if a mental state plays the same functional role as a brain state, then we have good reason to identify the mental state with the brain state or, in a slight variant of the view, to identify the mental state with the higher-order state of having some physical state play the role in question.

Despite their disagreement about the relationship between the experience and the brain, common-kind theorists agree on certain key facts:

- (i) A perceptual experience occurs at the end of a causal chain that, in typical cases of seeing, starts with light reflecting off an object and then hitting the eye, leading to various brain states being instantiated, leading to the occurrence of a visual experience.
- (ii) One can cause a perceptual experience to come into existence by recreating any of the states along that causal chain (so long as they in turn cause the rest of the states in the causal chain to come into existence). In particular, by stimulating the brain in the right way, one can cause a perceptual experience to occur. In this case, one re-creates the end state of the causal chain without perception of the world occurring. This is to create a hallucination.

- (iii) A perceptual experience caused by perception of the world, and a perceptual experience caused by merely stimulating the brain in the way that it would have been stimulated by perception of the world, produce experiences of the same type in respect of what they represent and in respect of their conscious nature, that is to say, their phenomenal character. I will express this idea by saying that the experiences are of the “same *mental type*.” These experiences are thus alike, bar the fact that one is had whilst perceiving the world and one is had whilst hallucinating. The experiences are intrinsically the same and differ only in their different origins or in the different casual relationships that they bear to the world.

To sum up, the traditional notion of hallucination, what I will call the “common-kind view of hallucination” arises from conceiving of perception in the way that common-kind theorists do. Common-kind theorists hold that states of the same mental type can occur in perception and hallucination. More particularly, they hold that any experience that could be had when perceiving (accurately or illusorily) could be had when hallucinating. This is because any way that the brain is stimulated in a case of perception could be a way that it is stimulated when no perception occurs, thus re-creating the same end state, which they hold to be identical with one’s perceptual experience. (As an aside, note that the converse may not be true. There may be ways of stimulating the brain that produce hallucinations that cannot be replicated in perception.<sup>10</sup> However, from now on I will set that kind of hallucination aside and focus only on those hallucinations that are counterparts of experiences had while perceiving.) The traditional common-kind conception of hallucinations, therefore, is that they are of the same mental type as perceptual

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<sup>10</sup> For example, Crane and Piantanida (1983) induce experiences of novel colors that one could plausibly argue are hallucinations, and they speculate that such experiences cannot be caused by normal perceptual processes for those are restricted by opponent processing.

experiences had whilst perceiving the world. The difference between them is simply that hallucinations are had when not perceiving.

We have just seen how the common-kind view of perception entails that one can re-create the same mental type of perceptual experience had during perception without perception taking place. So we have seen how the common-kind theory of perception motivates the traditional, common-kind conception of hallucination. However, as we will now see, it is often the case that the traditional conception of hallucination is assumed and then used to argue for the common-kind view of perception. Thus the common kind theory of perception supports the common-kind conception of hallucination, but also vice versa. They are mutually supporting. (Of course this might give rise to the concern that there is no independent motivation for either—a thought that will be explored in section four below.)

The famous “argument from hallucination” is used to motivate one particular form of the common-kind theory: the sense-data theory. I will elucidate that argument before going on to look at a variant of that argument that supports another form of the common-kind theory that is more popular today than the sense-data theory: representationalism.

The sense-data theory claims that when we have a perceptual experience—be it one involved in perception or hallucination—we are immediately aware of nonphysical, mind-dependent objects called sense-data. These objects are such that if they appear to us to be some way, then those objects are that way. While nonmental physical objects like tables and chairs can seem to us to be one way and yet be another, no appearance-reality distinction exists when it comes to sense-data. The sense-data are said to resemble and represent the physical mind-independent objects in at least some respects—such as shape, size, and colour. In the case where we are perceiving the physical mind-independent world, the immediate awareness

of these sense-data allows us to be mediately aware of physical mind-independent objects in the world.

Although the term “sense-data” principally refers to mental objects, it has been, rather confusingly, also used to refer to the immediate objects of perception, whatever they are—for example, by G. E. Moore. When used in this way, “sense-data” can refer to physical mind-dependent objects, or to their surfaces, or to patterns of light on the retina. However, this latter usage has, for the most part, lost favour, and sense-data are now almost always taken to be the postulated immediate, nonphysical, mind-dependent objects of perception. This is how I will use the term from now on. Thus one should note that sense-data are not to be identified with the patterns of light on the retina, the early visual signals or representations in the brain, or brain states. Unlike these, sense-data are nonphysical objects in the mind that we are aware of. They have many of the properties that the objects we typically take ourselves to be aware of, like tables and chairs, have—they have shapes and sizes and colours—but not others, such as the property of being made of wood or being a chair. Although sense-data have properties like brownness and squareness, they do not exist in physical space. They inhabit the realm of each person’s mind.

Many people have thought that a theory that postulates queer metaphysical entities like sense-data has a high cost to bear. So why in the past did so many people believe such a theory? (Sense-data theory was the dominant theory in the first half of the twentieth century and arguably for some time before that.) The answer is that the argument from hallucination was thought to be an exceptionally powerful reason to believe that it was true. Before going on to examine that argument, we will consider briefly the distinction between mediate and immediate perception and mediate and immediate awareness.

What is it to perceive immediately, and what is it to perceive mediately? If one perceives an object immediately, then one perceives it without perceiving any



other, intermediary, object. And if one perceives an object mediately, one perceives that object in virtue of perceiving some other, intermediary object. (The same goes, *mutatis mutandis*, for mediate and immediate awareness.)

We typically think that perception is immediate. I see tables and chairs, daggers and people, but not in virtue of seeing other things. Thus it is the notion of mediate perception that requires further elucidation. Are there any examples of mediate perception that we know from everyday life, outside of philosophical theorizing, which can help us understand this notion? I believe that there are. One example is perceiving myself in virtue of perceiving my reflection in a mirror. A second is perceiving Partick Thistle football team by perceiving the television screen showing the match they are playing in. Although in our more reflective moments we are aware that we are not directly seeing our visage or our team scoring a goal, we often don't give this a second thought, and all our attention is focused on the mediate object. Likewise the sense-data theorist will say that normally we don't think about or pay attention to our sense-data, focusing only on the mediate objects in the physical world; but in our more reflective moments, we can come to appreciate that in fact we are only aware of such objects in virtue of being aware of sense-data.

The sense-data theory, with its rich ontology, comprising both mind-independent physical objects and mind-dependent nonphysical objects (sense-data), is motivated by the argument from hallucination, in which the notion of hallucination in play is the common-kind conception. Recall that this was that hallucinations are phenomenally and representationally just like experiences involved in perceiving the world, and so are of the same mental type. The argument from hallucination can be rendered as follows:

Premise 1     When I hallucinate, I am not aware of any mind-independent, physical object.

- Premise 2     When I hallucinate, I am nonetheless aware of something.
- Conclusion 1   When I hallucinate, I must be aware of a mind-dependent, nonphysical mental object—a sense-datum.
- Premise 3     Experiences that are phenomenally indistinguishable are of exactly the same type, qua mental state.
- Premise 4     If two experiences are of exactly the same type, qua mental state, and one involves being aware of a mind-dependent, nonphysical object, then the other also does.
- Premise 5     For every nonhallucinatory experience there is a phenomenally identical hallucinatory experience.
- Conclusion 2   All perceptual experience, hallucinatory and nonhallucinatory, involves awareness of a mind-dependent, nonphysical object—a sense-datum.

The argument is valid (thus if the premises are true, then the conclusion must also be true), but the conclusion is true only if all the premises are true. And almost every premise of this argument has been questioned, with the possible exception of the first.

Premise 2 is one of the most important premises in the argument. It can be challenged by claiming that although when we hallucinate we seem to be aware of something, perhaps it only just seems as if we are aware of something. Perhaps we are really aware of nothing. In truth it can be hard to decide between premise 2 and the thought that we are aware of nothing in hallucination, although defenders of both sides often loudly proclaim that their view is *obviously* correct. Suppose that you hallucinate a patch of red. You can have such a hallucination—of the afterimage variety—by staring at a patch of green for about a minute and then blinking a few times and looking at a white wall, whereupon you should experience an afterimage

of a red patch. The phenomenal character of such a hallucination can be intense and vivid, particularly when one creates special conditions for producing afterimage experiences. For example, if one creates a black boundary on a white piece of paper of the right shape and size so that one's afterimage seems to fit perfectly within the boundary when one faces it, then one's afterimage is particularly intense.<sup>11</sup> Fixate on the cross in the centre of the green patch in figure 1.3 for at least one minute, then blink a few times, and then fixate on the cross in the middle of the white patch surrounded by the black square.



Figure 1.3: A stimulus for generating strong afterimages

From the first-person point of view, it is exceedingly tempting to think that you are aware of a pink patch, particularly because, when having a strong afterimage, it seems just like what it is like to be aware of a pink patch when you are seeing. (Weaker afterimages are like seeing unsaturated or slightly transparent patches.) One might think that if there is awareness of a patch of pink in the case of perceiving pink, and it seems to you just exactly the same in the hallucinatory case, then it involves awareness of a patch of pink too. What more might there be to being aware of a patch of pink if not its seeming that way to you? Moreover, when having

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<sup>11</sup> See Daw (1962).

such after-images, people report being aware of a patch of pink. Are we to tell them that they are wrong about their own minds? And how else do we explain that they report a patch of pink, rather than some other colour? However, one has to recognise that if such reports are correct, such patches of pink are not physical, mind-independent patches of pinkness. And they are certainly not patches of pinkness in the brain, which resolutely remains shades of grey. If there are such patches of pink, then they really are peculiar mental objects that clearly don't inhabit physical public space. In light of the postulation of these metaphysically peculiar objects, the opposing view—that one merely *seems* to be aware of a patch of pink in the hallucinatory case—can start to seem more attractive.

Those who believe that we should reject premise 2 can nonetheless construct another version of the argument from hallucination, which does not have the sense-data theory of perception as its conclusion but has a claim consistent with the other main form of the common-kind theory—a representationalist common-kind theory—as its conclusion. This argument runs as follows:

- Premise 1     When I hallucinate, I am not aware of the mind-independent world.
- Premise 2     When I hallucinate, nonetheless the world perceptually seems to be a certain way.
- Premise 3     If I am in a state in which the world perceptually seems to be a certain way, but I am not aware of the mind-independent world, then I am in a state that perceptually represents the world to be a certain way.
- Conclusion 1   When I hallucinate, I am in a state that represents the world to be a certain way.

- Premise 4 Experiences that are phenomenally indistinguishable are of exactly the same type, qua mental state.
- Premise 5 If two experiences are of exactly the same type, qua mental state, and one involves representing the world to be a certain way, then the other does too.
- Premise 6 For every nonhallucinatory experience there is a phenomenally indistinguishable hallucinatory experience.
- Conclusion 2 All perceptual experience, hallucinatory and nonhallucinatory, involves having a perceptual experience that represents the world to be a certain way.
- Conclusion 3 For every nonhallucinatory experience that represents the world to be a certain way there is a hallucinatory experience that represents it to be that way too.

Common-kind representationalism is perhaps the most widely held theory of perception today. According to that view, perceptual experiences represent the world to be a certain way—where the notion of representation is spelled out in terms of accuracy conditions (as discussed in section 1) or in terms of how things perceptually seem to a subject.<sup>12</sup> In addition, it says that the same mental type of experience is had in hallucination and perception. (By calling this view “common-kind representationalism,” I wish to contrast it with a view whose commitment is just to the minimal claim that at least some experiences represent the world. It is possible to hold such a view and not be a common-kind theorist.)

Common-kind representationalism differs from sense-data theory. Although on both views when one has a perceptual experience the world is represented, on the common-kind representationalist view an experience does not

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<sup>12</sup> See footnote 5.

consist of being aware of mental objects or sense-data. One particular variety of common-kind representationalism, popular of late, consists of the further claim that one is simply aware of what the state represents: the apparent physical world around one. It claims that all mental aspects of perceptual experience are representational, and thus perceptual representation can explain the nature of phenomenal character.<sup>13</sup> Phenomenal character is taken to be identical to, or to supervene on, the representational content of experience.<sup>14</sup> So popular is this view that it, and it alone, is sometimes referred to by the name “representationalism”. It is also known as “strong representationalism.” However, in this essay I use “representationalism” to refer to the more general type of common-kind theory that may be held with or without these extra commitments.

Contrasting with strong representationalism is the common-kind representationalist view that the phenomenal character of experience is at least to some degree independent of what one’s experience represents. One version of this view is that phenomenal character is a property of experience that one can be aware of in addition to, and independently of, what the experience represents, for it can represent different things in different circumstances, and indeed in some circumstances it may not represent anything at all. This view of experience is quite like that of the sense-datum view for both posit awareness of something over and above what the experience represents. However, this view—sometimes called the qualia view—insists that, in addition to what the experience represents, we are aware only of the *properties* of experience, that can (but needn’t) represent the

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<sup>13</sup> Recent proponents of this view include Tye (1995), Dretske (1995) and Lycan (1996). See also Macpherson and Platchias (forthcoming).

<sup>14</sup> Supervenience is a metaphysical relation that comes in different specific kinds, but common to all is the idea that if one group of properties supervenes on another, then there can be no difference in the supervenient properties without a difference in those that they supervene on – the subvenient properties. Sometimes it is also specified that the supervenient properties must in some way be dependent on the subvenient properties and not vice versa.

physical world. This is unlike the sense-data view according to which we are, in addition, aware in experience of mental *objects* and their properties.

Common-kind representationalists can hold a variety of positions concerning the relation between experiential states and physical brain states. They can be physicalist or dualist. However, a perceived virtue of the theory is that it is possible for it to be compatible with physicalism. Among the physicalist versions of the view are, on the one hand, those that hold the mental states of a person are determined by the intrinsic nature of that person's brain and, on the other, those that hold that the relations that brain states bear to things outside the body is vital. This latter view arises because many theories of representation claim that what a brain state represents is determined crucially by causal, counterfactual, historical, or evolutionary relations that a type of brain state bears to the things that it represents, and that it is what the brain state represents that determines what kind of mental state it is.

This second argument from hallucination seems more plausible than the first. The first two premises appear to be true. The third premise is a common definition of perceptual representation, although not agreed on by all (see note 5). The most serious attempt to undermine the conclusion, I believe, comes from denying the truth of premise 4. This is the premise that disjunctivists deny. I will explore that position in section 4.

To summarise this section, common-kind theories of perception hold that the experiences had in perception are, qua mental states, exactly the same type as those had in hallucination. The difference between them is just that one is had when hallucinating, and the other when perceiving. The sense-data theory form of the common-kind theory takes these perceptual experiences to consist in a direct awareness of nonphysical, mind-dependent objects that represent the world. Sense-data theorists therefore take perceptual experiences to be nonphysical mental states

that are caused by brain states. They are dualists, for they believe that there are distinctive mental and nonmental (physical) objects or properties. The representationalist version of the common-kind theory takes experiences to consist in perceptual states that represent the world. These representational states are often held to be identical to brain states, thus allowing representationalists to resist dualism and hold a physicalist view. One can see that whether or not one agrees with common-kind theories, the motivation for them stems from the common-kind conception of hallucination – that hallucination is the same kind of perceptual experience, qua mental state, that is had when perceiving the world.

The common-kind theories therefore explain the difference between cases of perception and cases of hallucination not by reference to the nature of the perceptual experiences had in each but, typically, by means of the differing origin of the experiences or their relation to the world. The most well-known theory that explains the difference in this manner is the causal theory of perception, which is very frequently used to supplement the common-kind theory. The causal theory claims that

A subject S sees an object O if and only if

- (1) S has a visual experience E that represents O, and
- (2) E is caused in an appropriate manner by O.

Much philosophical labour has gone into spelling out to what extent accurate representation of O is required and what account of suitable causation can be given.<sup>15</sup> But we can ignore the details of this debate for our purposes. We turn now to consider the epistemological implications of the common-kind conception of hallucination.

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<sup>15</sup> See e.g. Lewis (1980).



### 3 The Epistemological Upshot of the Common-Kind Conception of Hallucination

The common-kind conception of hallucination has been used to motivate skepticism. Indeed, the argument that uses this notion of hallucination is perhaps the most famous argument in all philosophy. Descartes, in his meditations, entertains the thought that an evil dæmon or genius “of the utmost power and cunning has employed all his energies in order to deceive me”. He imagines that at least as part of this deception, the dæmon has been deceiving his senses by causing him to hallucinate. At the same time, we are asked to consider that these hallucinations may not correspond to the way reality really is. In consequence, Descartes asks us to consider how we know that the world around us is as we believe it to be. How do we know that we are not merely hallucinating the existence of such a world, for couldn't we undergo the same perceptual experience when hallucinating that we do when perceiving? Modern philosophical versions of the idea consider whether we might be a brain in a vat stimulated into hallucinating by an evil scientist. Versions of this idea also occur in popular culture, notably, for example, in the film *The Matrix*.

Philosophers have formulated Descartes's arguments in many ways. One way is as follows:

- Premise 1     When I perceive and when I hallucinate, I have the same type of perceptual experience, qua mental state.
  
- Premise 2     My hallucination doesn't give me knowledge of how the world is around me.
  
- Premise 3     If two perceptual experiences are the same, qua mental states, and one cannot give you knowledge of the world around you, then the other cannot.

Conclusion My perceptual experience involved in perception cannot give me knowledge of the world around me.

Skepticism of the sort engendered by the common-kind notion of hallucination at play in these arguments has been challenged in many ways. Premise 3 has been challenged by externalists, who claim that having one type of mental state on some occasions can fail to give one knowledge, yet having the same type on other occasions can provide knowledge. Differing claims about the circumstances in which having a mental state provides knowledge yield different forms of externalism.

One externalist view, for example, is known as “sensitivity”. According to this view, an experience can give one knowledge only if it leads to the formation of a belief that is true and is sensitive, in a particular way, to the truth and falsity of what is believed. To explain in what way your true belief must be sensitive, imagine a range of circumstances that are not too different from those that obtain in the actual world, and imagine that in those circumstances what you actually believe is false. If, in all those not too different circumstances, you would no longer hold the belief in question, then your belief is sensitive to the truth or falsity of what is believed, and in the actual world, you know what you believe. If you aren’t sensitive in that way, then you don’t know. Philosophers would express this thought by saying that your belief is sensitive if, in the nearest possible worlds in which what is believed is false, you would no longer hold the belief. Another externalist view is “safety”, which claims that an experience can give one knowledge only if it leads to the formation of a belief that is such that in most of the nearby possible worlds in which one holds the belief, the belief is true.<sup>16</sup> We can now see why these views reject premise 3. In both of these views, one instance of a particular kind of belief—for example, the kind of belief that involves holding it to be true that there is tea in the teapot—could be safe and/or sensitive and hence amount to knowledge while another instance would fall short. Suppose now, as is plausible on the common-kind view, that

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<sup>16</sup> For a survey of such positions, see Pritchard (2008).

instances, qua mental state, of the same kind of experience caused these beliefs—such as the visual experience as of steam rising from the teapot’s spout. One instance of that experience would not provide knowledge, but the other would.

Externalists often claim that I can know something even if I don’t know that I know it because I can’t rule out that I am hallucinating. They claim that requiring that I know that I know something, and hence requiring that I know that I am not hallucinating, is too strong a condition to place on the conditions required for knowledge and that a sensitivity or safety condition is all that is required.

Some people have wished to resist skepticism but are unsatisfied with the ways in which externalism does so. Fortunately, for such people, alternative views of hallucination offer a chance of showing other ways to resist the skeptical conclusion.

#### **4 Disjunctivism and Alternative Views of Hallucination**

Recall the common-kind conception of hallucination, according to which hallucination involves having exactly the same kind of perceptual experience, qua mental state, as one has in perception. As we saw in section 2, backing for this view comes from the thought that perceptual experiences involved in perceiving occur at the end of a causal chain of events—and you could create the same perceptual experiences by re-creating the conditions at the end of the chain. One could do this either by directly creating just those end conditions or by creating any intermediate step in the chain. The evidence that is often cited for thinking that this is true is (a) the nomological possibility of such cases and (b) the actual existence of hallucinations, which for the traditional philosopher will include the following:

- clinical hallucinations (hallucinations that occur in nonnormal subjects suffering from recognised psychological abnormalities, such as people with

Parkinson's disease, schizophrenics, and people suffering from delusions of various kinds)

- dream experiences
- afterimages

But does the existence of these kinds of cases *really* back up the traditional common-kind view of hallucination? One might argue not. One might argue that they do so only if you take a very particular view of them. This is how “experiential disjunctivists” argue. They claim that only if one accepts the common-kind theory of perception will one be tempted to adopt the common-kind conception of hallucination. Thus one doesn't have to hold that hallucination involves the very same type of perceptual experience that one has in veridical perception. And one may even go on to try to deny the nomological or metaphysical possibility of cases of hallucination as the common-kind theorist conceives of them.

According to experiential disjunctivists, a different conception of hallucination has been overlooked. This alternative is that when one hallucinates, one goes into a state wherein it is not possible to know, by introspection alone, that one is not veridically perceiving—but, qua mental state, that is all that is the case. When one is in such a state, one is said to be in a state that possesses the “negative epistemic property”. The reason for saying that in hallucination it is not possible to know *by introspection alone* that one is not veridically perceiving is to allow for the existence of some cases of hallucination where we come to know by other means that we are hallucinating. In such cases, we may come to know because someone tells us – perhaps a trusted doctor. Or we may notice anomalies among our experience. For example, we may be unable to touch the dagger that visually seems to us to be floating in midair. Or we may notice bizarre features of our experience that we think are better explained by hallucination than by the fact that the world has changed to allow such things to be possible—for example, so that daggers can hover in midair. In these cases we are not using introspection alone in coming to

know that we are hallucinating. We are using it together with general knowledge of the way the world is and the way experiences ought to be consistent and so forth. Such cases can still count as hallucinations for the disjunctivist. For these cases could still be ones where reflection on the nature of the experience alone, without additional general knowledge of contingent facts about the world, is such that it is not possible for the subject to know that he or she is not perceiving.

The lynchpin of the disjunctive theory is that one does not go into the same perceptual experiential state, qua mental state, when hallucinating that one would go into were one perceiving what one seems to be perceiving. Of course, the state that one goes into when one perceives the world also has the negative epistemic property, but it has other mental properties besides that, which the hallucination state lacks. The nonhallucinatory state is a state of perceiving, and it is also a state that has a certain phenomenal character, and depending on what else one thinks, it may have other mental properties as well. The hallucinatory state lacks those properties.<sup>17</sup>

Moreover, according to experiential disjunctivism, hallucinatory states would not be the same type of state, qua mental state, as states involved in perceiving, even if the brain states involved in perception and hallucination were identical. This is because, according to the disjunctivist, perception doesn't happen when you have the right causal connections between an appropriate perceptual experience and the world. Perceptual experience is not the end state in a causal chain. Rather, one's perceptual experience comprises the whole process: what goes on in your head, the things in the world seen, and any causal connections between the latter and the former. So even if the whole brain is in the very same state when hallucinating as it is when perceiving, the occurrence of this brain state does not constitute conditions sufficient for perceptual experience.

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<sup>17</sup> See Martin (2004, 2006) and Fish (2008).

Many philosophers who hold the common-kind view don't just disagree with experiential disjunctivism—they find it extremely unpalatable. One reason that may explain this is that it is not easy to form an intuitively appealing picture of perception and hallucination as the disjunctivist conceives it. In part this may be because the common-kind view of perception has a strong intuitive pull and has deep roots within traditional Western philosophy. Thus, to give experiential disjunctivism as much plausibility as possible, I will try to paint as appealing and clear a picture of perception and hallucination, as the experiential disjunctivist conceives of it, by means of elaborating on a metaphor concerning the role of the brain in perception.

The common-kind theorist could think of the brain as a machine that has the task of producing perceptual experiences, and it is by having these experiences that we can be aware of the world, at least in certain circumstances, namely, when the brain is producing the right kind of experience and is causally connected to the world in the right way. The disjunctivist views the brain's role differently. One might think of it as a machine, but not one that produces experiences as output. Rather, the brain can be thought of as the machinery required to focus and attune a lens in order to allow us to see. The nature of the machinery and the lens is highly complex because not only does what we see change all the time, but the conditions for seeing change too, and the best adjustment of the lens for seeing different things, and for seeing the same things in different conditions, varies. Thus the brain is constantly adjusting itself in response to the way the world is based on its principles of operation. When the brain adjusts itself in the right way in response to the world, then the brain provides a transparent window onto the world—a lens—allowing the person whose brain it is to see the world. In this situation, one sees the world directly; there is nothing else of which one is aware, no representational intermediary, no machinery of the brain, no lens. In this situation, one has a perceptual experience of the world, but that experience comprises the objects and

properties that you directly see together with the relationship that you bear to them—the perceptual relation. The perceptual relation obtains because the lighting conditions are appropriate and because the brain is doing what it needs to do to allow you access to the world.

Of course, sometimes the brain does not manage this extraordinary feat. Sometimes the lens is not focused properly, and our window onto the world distorts our view of the world. When we see in a distorted manner, we are undergoing an illusion. On other occasions the window on the world remains opaque. In such cases we don't see. But during some of these occasions, the brain is in a configuration that fools us. It fools us by putting us into a state such that we can't distinguish that state, by introspection alone, from veridical perception. In other words, we hallucinate. We are seeing nothing, but the configuration of our brain prevents us from detecting this by introspection alone.<sup>18</sup>

This view is experiential disjunctivism. As it is sometimes put, the view is that the experience in the “good case” (perception) and the experience in the “bad case” (hallucination) are not the same type of experience, qua mental state. One is an experience of seeing the world; the other is an experience that involves not being able to know, by introspection alone, that one is not perceiving. Experiential disjunctivists hold that when one is hallucinating one's experience lacks phenomenal character altogether, for all there is in common between the hallucination and its perceptual experiential counterpart, is the negative epistemic fact. The idea is that when one sees, the phenomenal character of one's experience—what it is like to have that experience—is constituted by the properties of the objects that one sees. The phenomenal character of one's experience when one accurately sees a red teapot (the phenomenal redness, say) is constituted by (is simply) a property of the physical surface of the teapot. In the bad case, there is no physical patch of red in objective space that one is aware of, and so one's experience

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<sup>18</sup> I owe this metaphor to Imogen Dickie, who suggested a form of it in conversation.

cannot have that phenomenal character, in fact, it has none at all. This is why the disjunctivist often emphasises the idea that, when hallucinating, all there is to being in that state is being unable to tell (by introspection alone) that one is not perceiving. One is not having an experience with the phenomenal character that one would have in the good case.

We are now in a position to see what the motivations for experiential disjunctivism are. First, the view allows that perception of the world can be direct and immediate. Second, some believe that it allows us to give a naturalistic account of phenomenal character: phenomenal character is identical with the properties of physical objects in public space.<sup>19</sup>

A third motivation, according to some (but not all), is that the view allows us to overcome skepticism. We can sketch how this view might be thought to do by considering that as the experiences in the good case and the bad case are held not to be the same in all mental respects, then there is some reason to think that the experiences do not possess the same epistemic properties.<sup>20</sup> Thus one can think that the perceptual experience in the good case can give one knowledge of the world even though the experience in the bad case cannot. Attributing these different epistemic properties to the experiences might seem unproblematic, for on this view, the mental states themselves, qua mental states, are very different. Thus epistemic differences are grounded in experiential mental differences, and an important

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<sup>19</sup> Fish (2009) argues for this view.

<sup>20</sup> In fact, one can hold an epistemic disjunctivist view without being an experiential or phenomenal character disjunctivist simply by holding that the experiences in the good and the bad case have different epistemic value. However, to my mind, epistemic disjunctivism is better motivated if one grounds the epistemic difference in an experiential difference or difference in phenomenal character, because then one has an explanation for the different epistemic value one is attributing to the experiences, and one needn't become an externalist to reply to skepticism in this manner. For more details of types of disjunctivism and their relation, see Haddock and Macpherson (2008b) and the essays in Haddock and Macpherson (2008a).



internalist requirement is met: there is no epistemic difference without a difference in one's mental life.

Of course, one can think that disjunctivism does not deliver the goods. Many complaints against it have been made. One is that disjunctivism does not explain how direct perception and awareness come about. One might think that disjunctivism fails to provide a naturalistic explanation of how one can come to be *aware* of properties of the external world in perception, even if it has a naturalistic account of those properties to proffer. Another is that it cannot provide a plausible account of cases of illusion and cases of partial hallucination—cases that seem to require partial direct access. A third is that the view does not make good the notion of “not being able to know (by introspection alone) that one is not perceiving”. All these issues have been explored at length—see, for example, the essays in Haddock and Macpherson (2008a) – and fall outside the scope of this introduction.

Last, one might think that disjunctivism does not promise a novel and satisfying reply to skepticism. This is because, although the theory claims that the experiences in the good and bad cases are different, these differences are not manifest to the subject of those experiences, and thus one might think that any epistemological difference between the states is, in truth, a mere externalist one. One could think that the subjects themselves cannot have different reasons available to them to think that the two cases are different—no reason even in principle. Thus the theory does not promise a good nonexternalist response to skepticism.

Debates concerning whether disjunctivism is a good theory are ongoing. (See the essays in part II of this volume.) For the purposes of this introduction, however, we leave this debate behind. We now have enough of an understanding of disjunctivism to see how reflection on the view, and its varieties, opens up a few different conceptions or models of hallucination, which could be held independently of a commitment to disjunctivism.

I began the previous section by outlining the common-kind view of hallucination, which is of a state that is the same in all mental respects to its nonhallucinatory counterpart perceptual state, in particular having the same phenomenal character. The second view of hallucination, which we have just encountered when considering disjunctivism, is that when hallucinating, one lacks an experience with phenomenal character, and in addition, one is simply unable to know in principle, by reflection alone, that one is not perceiving. Call this the “strict disjunctive conception” of hallucination.

A third view, not held by disjunctivists, but a possible view of hallucination inspired by modifying the strict disjunctive conception, can now be discerned. It is that in hallucination one lacks an experience with any perception-like phenomenal character but believes that one is having a perceptual experience with phenomenal character, although in principle one could come to know otherwise, by reflection alone. For example, it could be that were one to pay attention to one’s mental life in the right way, one would be able to tell. One would be able to notice that really one was not in an experiential state with perceptual phenomenal character. Call this the “contingent disjunctive conception” of hallucination.

Finally, by considering the idea behind the contingent disjunctive conception, that of a misidentified state, I can conceive of a fourth kind of hallucination. This is not a conception of hallucination that differs from the counterpart nonhallucinatory perceptual experience in virtue of *lacking* perception-like phenomenal character; it is one where it has a *different* perception-like phenomenal character to the counterpart nonhallucinatory perceptual experience, and moreover, the subject of the state does not appreciate that it so differs. According to this notion of hallucination, when subjects hallucinate, they don’t have a perceptual experience of the sort that they would have were they perceiving what they are hallucinating. Instead the subject is in another mental state that has some perception-like phenomenal character. Candidate mental states are perceptual imaginings or

perceptual rememberings. To focus on the case of visual hallucination, the idea is that the subject is visually imagining or visually remembering but goes wrong by identifying that state as being a perceptual experience when it is not. Visual imaginings and visual rememberings are thought to be different from perceptual experience at least in respect of their liveliness or vivacity of phenomenal character, which is said to be weaker than that of perceptual experience.<sup>21</sup> They may be different in other respects too. These hallucinations could be such that although the subject misidentifies the nature of their experience by introspection, it might not be in principle impossible for the subject to come to notice the misidentification solely by reflection on the nature of the subject's mental state. Call this conception of hallucinations the "imagery/memory" one.

With these three further conceptions of hallucination now articulated, in addition to the common-kind conception, we can see why someone might say that the existence of the following cases of actual hallucinations does not show that hallucinations of the common-kind variety exist:

- clinical hallucinations (hallucinations that occur in nonnormal subjects suffering from recognised psychological abnormalities, such as people with Parkinson's disease, schizophrenics, and people suffering from delusions of various kinds)
- dream experiences
- afterimages.

This is because these could be cases of the strict disjunctive conception, the contingent disjunctive conception, or the imagery/memory conception. Given that, the reason to believe that instances of common-kind hallucinations are possible should not be, as I believe it has sometimes been, the existence of actual instances of

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<sup>21</sup> This idea was famously proffered by one of Auld Scotia's favourite sons, David Hume, and although most people agree that intuitively this seems right, spelling out exactly what liveliness and vivacity amounts to is a difficult task. I will not undertake it here.

hallucination. Thus we now simply seem to be in the position of having four different accounts of the nature of actual hallucinations on the table, without reason to choose one over the other.

One way forward at this point would be to debate the merits and demerits of the common-kind and disjunctive theories. However, another possibility would be to see if psychology and neuroscience can be of assistance, for these disciplines have started to investigate actual hallucinations. Moreover, they claim that they have evidence that shows the existence of different sorts of hallucination. Clearly this evidence might be relevant to the philosophical debate. In turn, the four conceptions of hallucination that we have identified via philosophical theorizing might be of interest to psychologists and neuroscientists because, to my knowledge, scientists have not considered all four conceptions—only two of them. Thus scientists should welcome the elucidation of conceptions of hallucination in addition to those they have thus far considered, for those conceptions are potentially the right ones of some actual hallucinations. If scientists want to be able to determine the nature of particular instances of actual hallucinations, then they should make sure that their evidence rules out all but one of the four models of hallucination that I have just articulated.

## **5 The Role of Psychology and Neuroscience**

Consider again the four conceptions of hallucination that I have identified:

- (1) the common-kind conception
- (2) the strict disjunctive conception
- (3) the contingent disjunctive conception
- (4) the imagery/memory conception

I believe that when scientists and clinical medics have considered the nature of hallucinations to date, they have considered only conceptions (1) and (4). And they have tried to determine whether instances (or certain classes) of hallucinations are of type (1) or type (4). I know of no accounts of hallucination in the scientific literature that consider other conceptions. When I have explained models (2) and (3) to scientists and clinicians in papers delivered at conferences, their reaction has confirmed this.<sup>22</sup> In fact, some clinicians expressed moral distaste for conceptions (2) and (3), on grounds I will explain later in this section.

One psychologist who argues for the existence of the common-kind hallucination is Dominic ffytche (this volume). He claims that hallucinations in Charles Bonnet syndrome, namely, visual hallucinations found in subjects soon after serious deterioration in, or complete loss of, their vision, are of type (1). These hallucinations are often rich and detailed and have bizarre content. In line with my earlier claim that scientists consider only conceptions (1) and (4) of hallucination, ffytche considers whether Charles Bonnet hallucinations are instances of visual imagery or visual memory, which he claims are known to be linked to activity in the frontal and parietal lobes, or instances of visual experiences, which he claims are known to be linked to activity in visual cortical areas. He presents evidence that the brain activity underlying these hallucinations is spontaneous activity in the visual cortex, which, by his lights, provides evidence for these hallucinations being instances of perceptual experiences, rather than visual imagery.

If one is confident that one can correlate perceptual experiences—or, more plausibly, perceptual experiences in a certain modality—with activity in one area of the brain and instances of perceptual imagery/memory in that modality with

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<sup>22</sup> Macpherson, F. (September 2010), “On the Origin of Hallucination: Philosophical Perspectives,” invited paper, symposium entitled “On the Origin of Hallucination,” 2nd Meeting of the Federation of the European Societies of Neuropsychology (FESN), Amsterdam, Netherlands; and Macpherson, F. (April 2010) “Hallucinations: A Philosophical Perspective,” invited paper at a European Science Foundation workshop on the neural and cognitive basis of hallucinations, University of Granada, Spain.

activity in a different part of the brain, then one can empirically determine which type of hallucinations are occurring on certain occasions by determining what brain activity is occurring. I will return to the question of whether one is right to think that one can establish such correlations. For now, note that this is a common methodology adopted by psychologists when trying to determine whether certain hallucinations are of type (1) or type (4).

Richard Bentall and Filippo Varese (this volume) look for this type of evidence in auditory hallucinations – a type of hallucination that frequently occurs in schizophrenia. They want to determine whether auditory hallucinations consist of auditory experiences of voices or of misattributions of people’s own inner speech, which they classify as being a kind of auditory imagery. While some brain imaging studies favour of the latter view, namely, that type (4) hallucinations are occurring, overall the results are unclear. Bentall and Varese attribute the lack of clear evidence to “methodological challenges and oversimplistic thinking about the nature of inner speech.” I suspect that they believe that while inner speech and brain activity have not been accurately correlated to date, such correlations could be established with further effort and then clearer results could be obtained.

Given that those correlations (if indeed they exist) have not yet been identified, Bentall and Varese investigate another way to determine whether auditory hallucinations are of type (1) or type (4): by using behavioural evidence. They find that, compared to people who lack auditory hallucinations, people who have auditory hallucinations are (a) more likely to report that an external voice is present when none is there during presentation of certain stimuli, such as white noise; (b) less good at recalling whether certain words were generated by themselves, by others, or by neither; and (c) less good at identifying distorted versions of their own voice, especially when the content of the speech is derogatory. This suggests that hallucinators are less good at determining whether or not an experience is generated by themselves. This is known as “source monitoring”. The

lack of good source monitoring in auditory hallucinators provides some, although not conclusive, evidence for the view that auditory hallucinations arise on account of a failure to identify auditory imagery—in these cases, self-generated inner speech—as being just that. At least it provides evidence for that view over the hypothesis that the patients are undergoing perceptual auditory experiences of the sort they would have if hearing another person speak out loud.

To summarise, on the assumption that we are only trying to decide between (1), the common-kind conception of hallucination, and (4), the imagery/memory conception of hallucination, two possible sorts of evidence might weigh in favour of one rather than the other: evidence from what brain state the person is in and behavioural evidence. The scientific evidence to date suggests that if choosing between these two options, then in some cases we should favour (1), in others (4). Note, in addition, that if there are hallucinations of type (4), then a particular method of treatment for such hallucinations becomes worth investigating: teaching people to be better at introspecting their experience and determining whether it is imagery and/or whether such imagery is self-generated. Whether such a treatment would be effective for type (4) hallucinations is an empirical matter, but in principle, it could not be used to treat type (1) hallucinations.<sup>23</sup>

As the attentive reader will have noted, I have stressed that the evidence and methodologies of scientists used to determine the nature of hallucinations work

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<sup>23</sup> This is not to say that *other* introspective methods might not be able to give subjects insight into when they were having type (1) hallucinations, dependent on the contingencies of the world. For example, suppose it turned out that a person's hallucinations were all Lilliputian hallucinations, that is, hallucinations of little people. (In fact, scientists claim that there are subjects who have just these hallucinations. See e.g. Chand and Murthy (2007).) Such a person might be able to learn what was real and what was hallucinated by learning that her hallucinations were only of little people, and knowing that she was unlikely to be in an environment that contained such little people. Note, of course, that this kind of evidence that subjects might have that they were hallucinating would not come from reflection on the nature of their experiences alone (unlike the knowledge that type (4) hallucinators are said to lack). It would come from reflection *plus* the knowledge that their experiences of little people occurred when and only when they were hallucinating.

only when one is deciding in a forced choice, whether the hallucination is of type (1) or type (4). But we have seen that philosophers have identified four conceptions of hallucination. Suppose that we are trying, as we should, to determine whether a hallucination is of type (1), (2), (3), or (4). Can we do so? And can the evidence and methodologies of science we have considered here be used to do so?

To consider this question, let us temporarily set aside type (2) conceptions of hallucination. Therefore consider, in the first instance, the following question: can we determine whether a hallucination is of type (1), type (3), or type (4), supposing that those are the only conceptions of hallucination that we were choosing between (in other words, in a forced choice between these alternatives)? I think that the answer to this question is contingent. There are some ways that the world might turn out to be that would allow us to have such evidence, but we may be unfortunate and the world might not turn out that way. I will first demonstrate what evidence would be informative, before illustrating how the world may not provide us with evidence one way or the other.

Evidence in favour of type (3) hallucinations, rather than type (1) or type (4), could be found if one area of the brain correlated with conscious visual experience, and one area of the brain correlated with visual imagery, and one knew this, and one found that neither of these regions was active when a subject was hallucinating. In particular, it would be persuasive if one had evidence that a part of the brain typically associated with believing—perhaps consciously occurrently believing—was active. It would be evidence in favour of the only alternative that we are supposing there to be on the table, namely, that the subject lacks a state with perceptual-like phenomenal character but believes himself or herself to be in such a state, although the subject could come to know otherwise by introspection alone—a type (3) hallucination.



One might question whether there could ever be such evidence by questioning whether one could ever establish what the neural correlate of just visual experience was, as opposed to the correlate of the following disjunction: either having visual experience or having a type (3) hallucination. Likewise, one could question whether one could find the neural correlate of conscious visual imagery as opposed to a type (3) hallucination.

However, in reply, I think that one could establish the neural correlate of just visual experience and just visual imagery if certain conditions existed. One would need to be able to discriminate between the presence of both visual experience and visual imagery from the presence of type (3) hallucination. If the world was conveniently set up so that behavioural differences existed between the states in question, of the kind one would expect given the natures of those states, then one might be able to tell these states apart. For example, on some occasions when hallucinating someone might change their mind about whether they were having a perceptual or perceptual-like experience, perhaps when prompted, whilst on other occasions they would not. Such behavioural evidence would be evidence that itself helped one decide whether a hallucination was of type (1), type (3), or type (4). But, in addition, it might allow one to correlate different brain activity with each type of hallucination, allowing one thereafter to determine via brain scanning alone which type of hallucination was present on a given occasion, and to provide confirmation, or lack thereof, of the behavioural evidence. As said previously, whether one could actually do any of this is a contingent matter. It would be no great surprise if the behaviour associated with type (3) hallucinations was rather similar, or indeed identical, to that of type (1) and type (4) owing to the likelihood of both states producing the same beliefs in subjects. However, psychologists are experts at teasing apart rather similar states, so perhaps some measures could be found.

It is worth noting that someone changing her mind, from believing that she has a perceptual experience to believing that she does not, will not guarantee that

the person is having a type (3) hallucination. This is because someone who is having a common-kind hallucination could (falsely) change her mind about whether she is having a perceptual experience. Such belief change could be a response to myriad factors. Therefore, evidence about subjects' brains and behavior on occasions when we are confident that they are not having visual or visual-like experiences, and when we are confident that they are having beliefs about visual experiences, may be the key to seeking firmer evidence of the appropriate sort.

Now let us consider whether we could determine whether a hallucination is of type (1), (2), (3), or (4). One can imagine finding such evidence. Let me provide some examples. First, suppose that it has been established that some hallucinations occur when the visual cortex is active (which leads us to suspect that these are type (1) hallucinations), and some hallucinations occur when the frontal and parietal lobes are active (which provides some evidence that these are type (4) hallucinations), and some occur when only a part of the brain associated with conscious belief is active (supporting the suggestion that these are type (3) hallucinations). If we then found that some hallucinations occurred when a very different pattern of brain activity occurred, then this would provide evidence, albeit rather weak, that these hallucinations were different, and if type (2) hallucinations are the only other candidate type, then perhaps we might be tempted to identify these as type (2) hallucinations. Likewise, if we found behavioural markers for type (1), (3), and (4) hallucinations and then found hallucinations with a different behavioural profile, then this again might lead us to suspect that they were of type (2). In short, some type (2) hallucinations could have a distinct brain correlate and could produce measurable behavioural differences from types (1), (3), and (4). Thus it is possible that we could produce positive evidence in favour of type (2) hallucination being present, although whether the world is as it would need to be for such evidence to be present is another matter.

However, unfortunately, although we have just seen that there could be positive evidence in favour of type (2) hallucinations, there is good reason to believe that we could never have evidence to rule out that a type (2) hallucination is occurring. For example, suppose a person's brain was active in just the way it would be were the person perceiving. When I considered whether one could decide between types (1), (3), and (4), supposing that those were the only possibilities, then perception-identical brain activity and perception-identical behaviour counted in favour of the presence of type (1) hallucination, rather than (3) or (4). However, when we also consider the possibility of type (2) hallucinations, the situation changes. If perception-identical brain activity occurs, but not perception, then how could we determine whether a type (1) or a type (2) hallucination was occurring? According to the common-kind theory, being in the same kind of brain state that one is in when one perceives causes one to have a perceptual experience with the same phenomenal character that one would have were one perceiving—a type (1) hallucination. But recall that, according to the disjunctivist, this is not the case. According to the disjunctivist, if a person is in the very same brain state as he would have been in when perceiving, he is simply in a state in which it is not possible for him to know that he is not perceiving by means of introspection alone. He is not in a state with phenomenal character. He is having a type (2) hallucination. Thus upon discovery that the brain is undergoing perception-like activity in the absence of perception, there is no evidence from the brain state alone that could determine whether the hallucination is of type (1) or type (2). Therefore, which type one thinks is occurring will depend on one's high-level theoretical commitments about the nature of perception and hallucination—one's commitments to either the common-kind or the disjunctive theory of perception. Thus the existence of hallucinations in which the brain is active in the same way as it is in perception could never tell in favour of the common-kind type (1) conception of hallucination over the strict disjunctivist type (2) conception. Indeed, given that a disjunctivist could believe that any pattern of brain activity associated with hallucinatory states that a person might

have is compatible with that person having a type (2) hallucination, it would seem that there is no evidence about brain activity which could rule out the possibility that a type (2) hallucination is occurring on any occasion.

Moreover, disjunctivists will think that the same behavior could be present whether the subject was having a type (2) hallucination or one of the other types of hallucination. Thus they could think that no behavioural test could tell apart type (2) hallucinations from any of the other kinds.

In short, we can never *in principle* be in a position to rule out that a type (2) hallucination is occurring, rather than one of the other types of hallucination, on the basis of empirical evidence. However, if we set type (2) hallucinations to one side and suppose that we are just trying to determine whether a hallucination is of type (1), (3) or (4), then it is possible that we could find brain and behavioural evidence that tells us which it is, in the manner that we have seen psychologists actually do and in the manner that I outlined earlier in this section.

Given these reflections, it is perhaps no surprise that psychologists, neuroscientists, and clinicians have not acknowledged hallucinations of type (3), and, more particularly, of type (2). The relative ease with which one can determine whether a type (1) or type (4) hallucination is occurring, if those are the only two possible options, is marked, compared to that required when we broaden the choices to include type (3) and type (2). However, as we have just seen, all four conceptions of hallucinations seem possible. Thus, determining which sort of hallucination is occurring is more difficult than scientists have heretofore acknowledged, and looks to be impossible if we wish to find empirical evidence that rules out that a hallucination of type (2) is occurring.

Another reason that may explain why scientists have not considered hallucinations of type (2) or (3) lies in the response of a clinician when I asked him why he had never considered whether hallucinations of these types were occurring

in his patients. He replied that to do so seemed morally repugnant. He noted that it would involve disbelieving his patients' reports about their own experience—disbelieving them about their own minds. The clinician would have to raise the possibility to his patients that what they were saying about the nature of their own minds was false. They were not having perceptual or perceptual-like experiences on occasions when they claimed that they were.

One might wonder why he found that so repugnant. After all, there are occasions when clinicians tell their patients that they are not perceiving the world when they think and claim that they are. Clinicians do inform their patients that they are hallucinating. If it is morally acceptable to do that, which clinicians take it to be at least in some cases, why would it be wrong to go further and tell the patients that they were not even having perceptual experiences? After all, one need not suppose that one's patients are lying in this situation. They might be trying to report truthfully on the nature of their mental life but, due to circumstances beyond their control, be getting it wrong. That too could be explained to these patients.

There are deep issues here to do with the authority that we grant others about the nature of their own mental lives. This kind of issue can be brought out by considering a related case: the case of pain. Suppose that someone went to the doctor complaining of terrible pain in his knee. If the doctor did some tests and then told the patient that she had good news that he was not in fact suffering pain at all and should therefore go home, we might think that something very wrong had occurred. You might think that the patient is the expert on his mental state, not the doctor, whatever the empirical tests say.

These considerations bring out a key feature that separates the common-kind theory of perception from the disjunctive theory of perception. This feature is a significant and important philosophical difference that divides the theories. The common-kind view of perception must insist that there are some hallucinations of

type (1) or that such hallucinations are at least possible. Their theory of perception requires such a commitment. They can also allow the actuality and possibility of types (3) and (4). And, although in theory they could allow for type (2) hallucinations to be possible, in practice, I believe that many will want to deny their existence, for doing so provides one reason to favour the common-kind theory over the disjunctive position, as I will explain shortly. The disjunctive theory of perception endorses the possibility of type (2) hallucinations and can allow that hallucinations of type (3) and (4) may occur. However, they must insist that hallucinations of type (1) do not and cannot occur. Given that no possible empirical evidence would settle whether hallucinations of type (1) are occurring or are possible, rather than type (2), we must turn to theoretical philosophical reasons for thinking about which types of hallucination are possible, rather than to science. What we find when we do so is that the theoretical reasons that underpin thinking one kind of hallucination rather than the other is possible amount to fundamentally different worldviews: different sets of initial starting assumptions on which one builds to construct the rest of one's philosophical view—different sets of fundamental assumptions that the common-kind and the disjunctivist theories are based on. So it is to these assumptions that we must now turn to understand what at core differentiates the common-kind view from disjunctivism and on what grounds we should accept one view rather than the other.

The common-kind conception of the world is Cartesian in a certain respect. According to the Cartesian view, doubts may arise as to the nature of the external world and our knowledge of it, but *serious* doubts cannot arise as to whether we know that we are conscious and know the nature of our mental states. Although Descartes said, "I think, therefore I exist", a modern Cartesian might replace this with "I am conscious, therefore I exist". Knowledge of one's own consciousness – of one's own phenomenal character – is bedrock. It is the foundational truth—the place where our knowledge is certain. The Cartesian and the common-kind theorist

take it that we know our own mind. We know that we have conscious mental states, and what phenomenal character they have.

I said “serious” doubts cannot arise about our knowledge of these matters, for the Cartesian can allow that on occasion we may make mistakes. We may not be paying enough attention, or we may make a snap decision unguided properly by introspection, or circumstances may arise in which we make contingent trivial errors; we are not infallible. But when suitably focused, and when we set aside trivial errors, such as inadvertent word or concept choice, we cannot be wrong about the nature of our own mental experience, in particular we cannot be wrong regarding the basic question of whether we have it. Thus the natural view for the Cartesian is that when hallucinating (and not realizing that we are hallucinating rather than perceiving) we are right that we are having perceptual experience, just wrong about the way that the world is (or if having a veridical hallucination we would be right about the way that the world was but we would not know how it was based on our experience). Thus, type (1) hallucinations fit well with the Cartesian view.

Although hallucinations of type (3) and type (4) do not sit at ease with the Cartesian position, the Cartesian and common-kind theorist can try to allow for them. They can say that these arise in conditions where the kind of errors outlined in the previous paragraph occur such as lack of attention, and snap judgments not based on proper introspection. The empirical evidence suggests that there may be many hallucinations of type (4). A weak point of this theory is that it is highly debatable whether the kinds of error posited to explain this type of hallucination would explain the persistence of these hallucinations in individuals who have them. What would be stopping these individuals from realizing that they were not having perceptual experiences by simply paying more attention and taking more time to make their judgments, and thus curing themselves of their hallucinations?

The main point, however, that I wish to make about the Cartesian and common-kind theory is that to maintain the epistemological view that their theory has regarding

the mental realm—that knowledge of the existence of our own consciousness is foundational and close to infallible—Cartesians and common-kind theorists will want to deny that hallucinations of type (2) could occur. The common-kind theorist will want to maintain this epistemological view because the evidence of the existence of type (1) hallucinations, and hence evidence in favor the common-kind view, comes from introspective knowledge that we allegedly have that we can have perceptual experience at times that we nonintrospectively know that we are not perceiving the world, such as when dreaming and having after-images. Type (2) hallucinations involve “serious” errors as to whether a mental state is conscious and has perceptual phenomenal character. In many such cases one will think or judge that one is having a perceptual experience but one will be wrong. (In some cases one may not do any thinking or judging.) Indeed it is not possible for one to know though introspection alone that one is not perceiving, so it is not possible for one to know though introspection that one is not having a perceptual experience. This is precisely the kind of error that the Cartesian will want to deny is possible, as will common-kind theorists who wish to maintain the Cartesian view of our knowledge of our own minds. For the possibility of making such error—and as the disjunctivist would have it, making such errors in every instance of hallucination—casts doubt on our claim to know that perceptual experience is possible in the absence of perception of the world.

In contrast, the disjunctivist conception of perception begins with an epistemological “modesty,” to use M. G. F. Martin’s term, about our knowledge of our own experience.<sup>24</sup> It does not presuppose that we can tell that we are having a conscious perceptual experience. It does not presuppose that when we are in a mental state, we can know whether that state has perceptual phenomenal character. In this respect, disjunctivism seems to make less strong assumptions about our knowledge than the Cartesian and common-kind view, and this may seem like a reason to favor this position. However, it also begins with a strong claim about the external world that the Cartesian and common-kind theorist do not presuppose, namely, “that some at least of our sensory

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<sup>24</sup> Martin (2004, 38)



episodes are presentations of an experience-independent reality.”<sup>25</sup> This is an expression of Martin’s commitment to naive realism—the view that at least on some occasions we immediately perceive the world. This view is likely to be accompanied by the further view that many disjunctivists would endorse, namely, that when immediately perceiving the world we are in a position, at least, to come to have knowledge about it. (See McDowell 1994 and, for an overview, Haddock and Macpherson 2008b.)

Thus we are faced with the choice of starting by taking it for granted that we are in a strong epistemological position with respect to knowledge of our own mental lives, in particular the facts concerning whether we are having perceptual experiences, or of starting by taking it for granted that we sometimes accurately perceive a mind-independent reality, and are thereby in a position to know about the world. It is hard to adjudicate between these positions and therefore with what basic assumptions one should make at the point of beginning to theorize about the nature of perception and the world.

M.G. F. Martin (2004, 2006) argues at length in favor of the disjunctive starting point—one reason in its favor being its claimed epistemological modesty. But one might resist this. For example, opponents of disjunctivism could claim that it fails to provide a plausible account of phenomenal character. Recall that disjunctivists claim that though two experiences may be such that *in principle* there is no way for the subject to tell apart the states just by introspection, nonetheless these states can have different phenomenal characters. This is just the epistemic modesty that they are keen to avow: there will be cases where we can’t tell apart cases of perception that involve perceptual experiences with phenomenal character from cases of hallucination in which there is no phenomenal character. They hold a view where either phenomenal character is not to be identified with “what it is like” for the subject (for that is the same in the good case and the bad case, while phenomenal character is not the same) or, if it is, then “what it is like” must be distinguished from “what it seems like” (for in the good case there is something that it is like, while in the bad there merely seems to be something that it is like). But one might

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<sup>25</sup> See Martin (2004, 38).

balk at any theory with this consequence. One might think that the theoretical role of phenomenal character is to capture “what it is like” where this is one and the same as “what it seems like.” Surely that is the notion of our mental life that concerns us—as illustrated in the example considered earlier of the inappropriateness of the hypothetical doctor’s reaction to someone claiming to be in pain, namely, that they should go home for they merely think that they are in pain.

Further, one may hold that the epistemically modest view raises a skeptical worry that far outstrips the Cartesian skeptical worry, which is that we may not know anything about the external world. Surely epistemic modesty—the possibility of error with respect to our judgment that we are in a state with phenomenal character—raises the specter that we never know whether we are having perceptual experiences with phenomenal character, and that we never are. Might we not always just *think* that we are? Thus might we be experiential zombies? Faced with the threat of such radical skepticism about our internal mental lives, one reaction would be to think that we should reject the possibility of type (2) hallucinations and, with them, disjunctivism.

In my own opinion, it is possible to allow for the possibility of type (2) hallucinations but fend off the skeptical challenge concerning one’s knowledge of whether one is in a state with phenomenal character. One can think that cases can exist in which a person seems to be judging that he is in a state with phenomenal character when he is not in a phenomenal state and, further, that the person is not be able to know by reflection alone that he is not in a state with phenomenal character. Yet one might think that such cases do not show that there cannot be cases in which someone has knowledge that they are in a state with phenomenal character, when indeed they are, and know that they know this. If one adopts a disjunctive theory of introspection (not of perception), then one can think that when one is in a state with phenomenal character, one can have direct access to, or acquaintance with, that character and, by virtue of that access, know that one is in such a state (and know that one knows). And this can be so even if there can be states in which one is not in a position to know whether one is in a state with

phenomenal character, and indeed one makes a false judgment about whether one is. To draw an analogy here, one might think that it is possible in some circumstances to know that one is sober (and know that one knows it), such as, on certain occasions when one is sober and otherwise clear minded, even though in other cases it may not be possible for one to know that one is not sober, for example, when one reaches a certain level of drunkenness, even when in that state one falsely judges that one is sober. It is common to believe that the circumstances that one finds oneself in can alter one's ability to know things. Typically these circumstances are thought to consist in the way the world is around one. However, in the cases I am considering, we can see that the state that one's mind is in can alter one's ability to know things and one's ability to discriminate between the obtaining of different situations. On this view, one need not advocate epistemically modesty—at least all the time. Sometimes we may not be able to tell whether we are in a state with phenomenal character, but sometimes we can tell and we do know. This view is argued for in more detail in Macpherson (2010b).

My view lacks enough modesty vis-à-vis introspection to align it with the common-kind view, though it is more modest than the traditional versions of that view. According to my view, there could be type (1) hallucinations. It is possible for one to be having a perceptual experience—be in a state with phenomenal character—and know it, and yet one may merely be hallucinating. This secures commitment to the common-kind theory of perception. Yet, on my view, there can also be type (2) hallucinations, for one can be in a position where one doesn't know by introspection alone whether or not one is in a state with phenomenal character. Like both the traditional common-kind view and disjunctivism, my position also allows for there to be type (3) and type (4) hallucinations. However, it does not face the pressure that the common-kind view faced with respect to these hallucinations. My view is not committed to the idea that if one paid enough attention or was careful enough in introspection one should be able, when having such hallucinations, to realize that that is what they are. My view also shares a modesty with the traditional common-kind views, that disjunctivism lacks, namely, the need not to assume that we do ever perceive the world rather than hallucinate it. The view is also

modest inasmuch as it need not assume that any type of hallucination is not possible. All are possible according to this view and that, I believe, is a reason to recommend it.<sup>26</sup>

I leave the reader to consider the common-kind view, disjunctivism, and my own view, which I take to be a new variant of the common-kind view, and the four kinds of hallucination I have discussed in this essay, and to weigh the reasons for deciding between the theoretical positions outlined herein.

## **6 Conclusion**

This is an interesting time to be conducting research on the nature of perception and hallucination. Within philosophy, disjunctivism, a view opposing the dominant common-kind theories, is being increasingly worked out and articulated. The debate and disagreement between the two camps is becoming clearer. How can we make further progress in deciding between these two views? It is time for scientists to become familiar with this debate and to start to think about the disjunctive conception of hallucination. They should consider all possible sorts of hallucinations in their reflections on what their empirical data show. In addition, I believe that they should think about whether the philosophers are right in their claim that there is no way to empirically test between the common-kind theory and disjunctivism, or their respective conceptions of hallucination. Scientists in the past have disproved many long-standing philosophical claims with ingenious experimentation, although I doubt that it is possible in this case. Within psychology itself, empirical work on the brain mechanisms underlying hallucination proceeds apace with the invention and spread of the latest scanning techniques. Will scientists discover further conceptions of hallucinations that will have an impact on philosophical theorizing? That remains

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<sup>26</sup> Instances of when type (2) hallucinations might actually arise, namely in Anton's syndrome—a syndrome in which people who are blind claim that they can see—which is usually classified as a monothematic delusion, are given and discussed at length in Macpherson (2010b).

to be seen, but it seems to me to be a serious possibility. I hope that this volume will accelerate the pace of research on these important and fascinating topics.

The essays in this book continue various strands of the debate that I have outlined in this essay. An overview of the specific contents of those essays forms the following chapter of this volume.

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