Disjunctivism: An Answer to Two Pseudo Problems?*

Alexander Gebharter · Alexander G. Mirnig

Abstract: Ever since it was discovered that hallucinations and illusions are not all that compatible with our natural view of the relation between the perceiving subject and the perceived object, according to which we always perceive the object itself (or, as most epistemologists prefer to say, we perceive it *directly*), the philosophical position of Direct (or Naïve) Realism which is meant to be the epistemological equivalent of this view, has begun to falter. To express these problems more explicitly, the argument from hallucination and the argument from illusion were created and brought direct realists in dire need of explaining how phenomenons such as hallucinations and illusions could possibly go together with their position. One of the main direct (or naïve) realists' responses to these arguments is Disjunctivism, a position that, while being able to efficiently deal with both arguments, is subject to quite a few problems in its postulations as well. The intuitive plausibility of both arguments seems to have led many a philosopher to take their validity for granted. Because of this, it will be attempted to give an accurate and adequate reformulation of both arguments in this paper to find out whether their impact on the philosophy of perception is justified in the first place.

1 Introduction

Ever since it was discovered[1] that hallucinations and illusions are not all that compatible with our natural (some might say naïve) view of the relation between the perceiving subject and the perceived object, according to which we always perceive the object itself (or, as most epistemologists prefer to say, we perceive it *directly*), the philosophical position of Direct (or Naïve) Realism which is meant to be the epistemological equivalent of this view, has begun to falter. Two arguments – the argument from hallucination and the argument from illusion – intend to express these problems explicitly and brought direct realists in dire need of explaining how phenomenons such as hallucinations and illusions could

*This is a draft paper. The final version of this paper is published under the following bibliographical data: Gebharter, A., & Mirnig, A. G. (2010). Disjunctivism: An answer to two pseudo problems? *Conceptus, 39*(95), 61–84. doi:10.1515/cpt-2010-9503. The final publication is available at http://www.conceptus.at.

[1] Thoughts on hallucinations and illusions and their role in perception date back as far as the ancient world and then there is, of course, still the good old stick in the water.

possibly go together with their position. While the argument from hallucination forces any direct realist who accepts its quite plausible presupposition that contents of veridical perception are qualitatively similar to contents of hallucination to also accept that every act of perception includes some kind of inferential (mind-dependent) object not identical with the physical object (that is the position of Indirect Realism), the argument from illusion states in its core that cases of illusion, in which the subject is aware of something other than the purportedly perceived object, are from the subject's point of view indistinguishable from cases of veridical perception and therefore veridical perception has to be analyzed in the same way as illusionary perception, which means that in every case of perception the subject is aware of something other than the purportedly perceived object (which is again the position of Indirect Realism).

This is the point where Disjunctivism comes into play, an approach that attempts to avoid both aforementioned arguments' problematic conclusions by giving a disjunctive account of cases of direct perception that reveals some of the arguments' premises as not as plausible as they might have seemed. Hints of such theories can, as Fish states (cf. Fish 2009: 34), already be found in Ayer's and Austin's works:

> "If veridical and delusive perception were perceptions of objects of different types, they would always be qualitatively distinguishable [but this] could be denied without self-contradiction." (Ayer 1940: 12)

This statement seems to suggest that objects of different types might not always be qualitatively distinguishable even when they are ontologically different from each other, thus refuting a crucial presupposition of the argument from hallucination. Austin follows a similar line of thought when he asks why one would assume that there are no cases so that different objects are perceived in exactly the same way, which seems to be the whole point of hallucinations in the first place (cf. Austin 1962: 52). These basic ideas have then evolved into what is today known as Object Disjunctivism. According to the typical object disjunctivist's view, the contents of perception differ in their ontological status – in cases of veridical perception the perceived object is the physical object itself, while in cases of delusive perception it may be something else (such as sense data) – while still being potentially qualitatively indistinguishable. Thus the object disjunctivist is enabled to explain hallucinations as well as illusions without being inconsistent.

Another variant of Disjunctivism is the so-called Mental State Disjunctivism, which has its beginnings in Hinton's analysis of sentences expressing cases of potential hallucinations (misleadingly called 'illusions' by Hinton) such as "I seem to see a flash of light" that can be understood as either "I see a flash of light: actual light, a photic flash" or "I have an illusion of a flash of light: I do not see a photic flash, but something is happening that to me is like seeing one" (Hinton 1967: 217). The phrase 'something is happening that to me is like seeing one' seems to not suggest a difference in ontological status but a different

kind of experience of the object itself involved instead. These different kinds of experiences are called 'mental states' and differ depending on the particular case of perception (e.g. the mental state of a person veridically perceiving a banana is different from the mental state of a person dreaming a banana). A good example of the line of thought leading to Mental State Disjunctivism and an idea of what the mental state's influence on perception is, can be found in Martin's writings:

> "Both sense-datum views and intentionalism assume that perceptual experiences form a common kind of mental state among cases of veridical perception, illusion and hallucination."
>
> "Given the assumption that perceptual experience forms a common kind across veridical perception, illusion and hallucination, the naïve realist view must simply be false."
>
> "We should not think that perceptual experience forms a common kind of mental state across perceptions, illusions and hallucinations, a state which forms a proper part of one's perceiving of a pig, and can occur in cases where one does not perceive but merely hallucinates the presence of a pig." (Martin 2004: 393)

The mental state disjunctivist now has the distinct advantage over the object disjunctivist that he does not need to postulate at least two different kinds of ontologically different objects. This advantage, however, comes at the price of having to introduce different kinds of mental states, which need to be adequately explained and justified if the mental state disjunctivist does not want to become an indirect realist.

Disjunctivism is now generally understood as a response to the arguments from hallucination and illusion. Both of these arguments, however, are rarely found accurately explicated or at least in the form of an argument, which is quite puzzling considering the impact those arguments had on the discourse in the philosophy of perception. Arguments that are such a severe threat to one's position like the arguments from hallucination and illusion are to the classic direct realist, should be subject to critical examination before one draws its consequences.

One of the more detailed depictions of both arguments can be found in Robinson's frequently cited book "Perception"[2]. We will analyze and reconstruct the arguments in a formal correct manner in sections 2 and 3 respectively, by first (sections 2.1/3.1) giving a brief overview of Robinson's original formulation and how it is supposed to affect Disjunctivism, and then following up (sections 2.2/3.2) with a thorough premise-by-premise reconstruction and analysis that will give a clear account of the validity of the whole argument as well as of the acceptability of its premises.

[2] Robinson 2001.

2 The argument from hallucination

2.1 Basic formulation

Howard Robinson gives the following formulation of the argument from hallucination (cf. Robinson 2001: 87-88):

> **(1)** The contents of hallucinations are qualitatively similar to those of perceptual experiences.
>
> **(2)** The contents of hallucinations are subjective images or sense data.
>
> **(3)** If two things are qualitatively similar to each other, then they are of the same kind and have the same ontological status.
>
> *Therefore:*
>
> **(4)** Perceptual experiences have as their content subjective images or sense data.

Robinson also proposes as an alternative to the third premise the following, according to him more specific formulation that is supposed to be an expression of Berkeley's principle that "an idea can be like nothing but an idea":

> **(3*)** Something can be qualitatively similar to a mental item only if it is a mental item itself.

(1) seems to correspond with the general intuition behind the term 'hallucination' and is typically accepted by all disjunctivists.

While object disjunctivists would most likely see no reason to reject (2) since they are postulating an ontological difference between objects of veridical perception and objects of hallucination, and those hallucinatory objects might as well be subjective images or sense data, it can be doubted that a mental state disjunctivist would accept (2) because it seems that the whole reason why mental states are employed in the first place is to avoid speaking of mental objects such as the aforementioned and what they entail.

It is safe to assume that any object disjunctivist would reject (3), as one of the focal points of Object Disjunctivism is to distinguish between ontologically *different* objects of perception in order to be able to deal with phenomenons such as hallucinations. The mental state disjcuntivist's reasons for refuting (3) are analogous to the object disjuncitivst's in the sense that there are different kinds of mental states so that cases of veridical perception involve a mental state that refers to an external object whereas in cases of hallucination there is a different kind of mental state involved that constitutes the hallucination by itself. This refutal is, of course, only possible if one understands 'x is qualitatively similar to y' as 'x is indistinguishable from y' which our intuitive understanding of (1) seems to suggest. The object disjunctivist would reject (3*) for the same reasons he does not accept (3), while the mental state disjunctivist would see little reason to employ mental items which might additionally shift him more

towards Indirect Realism than he would possibly want and therefore reject (3*) as well.

(4) seems to be incompatible with Direct Realism and since disjunctivists are direct realists, they naturally do not agree with it.

2.2 Further exploration and analysis of the argument from hallucination

An argument with such profound philosophical impact as the argument from hallucination is worth being explored more thoroughly, which is why we will now try to reformulate it in a more precise way and then determine whether it is valid and what it actually says beyond our intuitive understanding of it.

At this point it is important to mention that ours is, of course, not the only way to reformulate Robinson's original argument. From what we have seen, though, we have come to the conclusion that all of them are subject to more or less the same problems. The version presented in this paper is the (at least from our point of view) closest to Robinson's own formulation (the same applies to our reformulation of the original version of the argument from illusion in section 3.2). One of those alternative formulations and an elaboration on why it also is not able to avoid the very same problems that our reformulation is facing, can be found in the appendix.

Premise (1) speaks of hallucinations, perceptual experiences and their contents as well as of qualitative similarity. Because it is difficult to imagine that there are hallucinations without a person having them, we need a variable p to refer to said persons. The aforementioned contents of hallucinations and perceptual experiences are best represented by a variable x, whereas 'qualitatively similar' suggests a comparison between those contents, which is why we shall also use another variable y for contents to properly represent this. Assuming that (1) does not only speak of some specific cases our reformulation of (1) and all subsequent sentences of the argument shall also contain universal quantification over all used variables:

> **(5)** For all x, y and p: If x is perceived by p and y is hallucinated by p, then x and y are qualitatively similar to each other.

We can represent 'contents of hallucinations' in (2) just as in (1) via y and p and since subjective images as well as sense data are kinds of mental objects, we shall speak of these objects instead:

> **(6)** For all y and p: If y is hallucinated by p, then y is a mental object of p.

'Qualitatively similar' can already be found in (1) and can be represented the way it was in (5) via x and y. 'The same ontological status' in context with 'qualitatively similar' in (3) is further specified in (3*), meaning that only a mental item can be qualitatively similar to another mental item. So all that is left to do is applying this specification found in (3*) to our reformulation with mental objects:

(7) For all x, y and p: If x and y are qualitatively similar to each other and y is a mental object of p, then x is a mental object of p.

By simply treating 'contents of perceptual experiences' and 'subjective images or sense data' as was done before we get the following reformulation of (4):

(8) For all x and p: If x is perceived by p, then x is a mental object of p.

According to Robinson, (4) supposedly follows from (1), (2) and (3)/(3*). Now after having reformulated (1)-(4) we can finally see if that is really the case. Since every variable in (5)-(8) is universally quantified, we can handle the sentences with propositional logic:

1. $A \wedge B \rightarrow C$ (5)
2. $B \rightarrow D$ (6)
3. $C \wedge D \rightarrow E$ (7)

---

4. $A \rightarrow E$ (8)

There is at least one interpretation $\mathfrak{I}$ of $\{A, B, C, D, E\}$ in which 1.-3. are true and 4. is false: $\mathfrak{I}(A) = t$, $\mathfrak{I}(B) = f$, $\mathfrak{I}(C) = f$, $\mathfrak{I}(D) = f$, $\mathfrak{I}(E) = f$. Therefore, the first version of Robinson's argument from hallucination is not valid. A conclusion that actually does follow from 1.-3. would be $A \wedge B \rightarrow E$ which translates to:

(8*) For all x, y and p: If x is perceived by p and if y is hallucinated by p, then x is a mental object of p.

This conclusion does obviously not capture the intended meaning of the argument which can equally not be expected from any of the other possible conclusions. On the contrary, in the case that x and y refer to the same object $(x = y)$[3], we suddenly have a quite convincing argument for a central claim of object disjunctivist theories at our disposal: The contents of hallucinations are mental objects whose ontological status differs from that of physical objects. In every other case regarding the reference of x and y, (8*) simply does not make much sense and does not even remotely serve as something that could be seen as a convincing tool for criticizing any established epistemological position. As stated in section 1 one of Disjunctivism's strengths was believed to be that accepting premises (1) and (2) while refuting (3) would allow one to evade the dangers of the argument from hallucination. As it turned out, none of the sentences of the argument pose much of a threat to at least Object Disjunctivism while the mental state disjunctivist can still simply refute (2) and/or (3) and will never run the risk to become an indirect realist (the original intention of the argument) by the argument from hallucination alone.

[3]Which would be the natural thing for any direct realist to assume.

Now we want to examine what happens to the premises of the argument from hallucination if we try to modify it in such a way that the conclusion does express the aforementioned original intention. We shall call this *the argument from hallucination**. As Robinson himself states, an additional sentence is needed to get (4) from (1) and (2) (cf. Robinson 2001: 88). As we have shown, (3) and (3*) fail to fulfill this function, which is why it suggests itself to modify (7) in such a way so that it actually serves as a logical connection between the first two premises (5) and (6) and the desired conclusion (8). In order to achieve such we need a sentence that is as least as logically strong as 'If (5) and (6), then (8).':

> **(7*)** *If*: For all x, y and p: If x is perceived by p and y is hallucinated by p, then x and y are qualitatively similar to each other. *And*: For all y and p: If y is hallucinated by p, then y is a mental object of p. *Then*: For all x and p: If x is perceived by p, then x is a mental object of p.

The problem with this sentence is that it cannot be easily seen how (8) could be gotten from (5) and (6) alone, so introducing a sentence that says nothing but that is not enough without proper justification. As providing such a justification might not be an exactly easy task (otherwise the transition from (5) and (6) to (8) would be a rather minor one), there are at least two courses of action that can be taken from this point: The first would be to replace (7*) with a more evident and, if possible, less convoluted sentence that fulfills the same logical function such as for instance the following:

> **(7*^{2})** *If*: For all x, y and p: If x is perceived by p and y is hallucinated by p, then x and y are qualitatively similar to each other and y is a mental object of p. *Then*: For all x and p: If x is perceived by p, then x is a mental object of p.

This sentence, while being already an improvement over (7*), is still in need of convincing argumentation and both sentences are highly unlikely to be accepted by any disjunctivist: While the object disjunctivist's distinction between ontologically different contents of perception would make little sense were he to accept the consequens of (7*) or (7*^{2}) respectively, the mental state disjunctivist would simply see no need to speak of mental objects.

Since it seems to be quite difficult to find an adequate alternative to (7*) that facilitates the evidence gathering process in a satisfactory way, one could still (as the second possible course of action) simply remain at (7*) and try to find a good motivation for it from there.[4]

Let us now suppose that (7*) is indeed well motivated and sufficiently justified and (5) and (6) are accepted as well. In this case we have a sound argument with (8) as its conclusion which lays near to take up an Indirect Realist position.

[4] Pursuing one of these courses is an endeavor in and of itself and also not within the scope of this paper and shall therefore be left subject to future scientific research.

Although it is highly implausible to accept (8) as a direct realist, it is still conceivable for one to do so but might lead to rather strange and far out theories. One seemingly difficult to circumvent basic assumption of such a theory would be that whenever someone perceives a physical object, then said object is at the same time mental as well. From an ontological point of view this sounds rather bizarre and would require its very own theory of perception[5] which might not be all that compatible with results of natural science.

In this section we have shown that Robinson's formulation of the argument from hallucination – when adequately specified – is not valid in the sense that not (8) but a sentence different from (8) actually follows from its premises. (8) as the conclusion can be achieved by modifying (7), but this modification still needs a good justification, which is not inherently evident.

3 The argument from illusion

3.1 Basic formulation

Robinson gives the following formulation of the argument from illusion (cf. Robinson 2001: 57-58):

> **(9)** In some cases of perception, physical objects appear other than they actually are – that is, they appear to possess sensible qualities that they do not actually possess.
>
> **(10)** Whenever something appears to a subject to possess a sensible quality, there is something of which the subject is aware which does possess that quality.
>
> *Therefore:*
>
> **(11)** In some cases of perception there is something of which the subject is aware which possesses sensible qualities which the physical object the subject is purportedly perceiving does not possess.
>
> **(12)** If a possesses a sensible quality that b lacks, then a is not identical to b.
>
> *Therefore:*
>
> **(13)** In some cases of perception that of which the subject is aware is something other than the physical object the subject is purportedly perceiving.
>
> **(14)** There is such a continuity between those cases in which objects appear other than they actually are and cases of veridical perception that the same analysis of perception must apply to both.
>
> *Therefore:*

[5] One possibility is to postulate that there is a personal sphere of perception that overlaps the physical world and whenever someone perceives a physical object then that object is part of such an overlap.

(15) In all cases of perception that of which the subject is aware is other than the physical object the subject is purportedly perceiving.

The first part of (9) corresponds with our general intuition concerning perception and is typically accepted by realists. In the second part of (9) 'sth. appears to so. other than it actually is' is explicated by speaking of sensible qualities, which is not quite as universally accepted; the basic idea, however, remains the same.

(10) is a formulation of the so called *Phenomenal Principle* (cf. Robinson 2001: 58) that is highly controversial. Accepting (10) leads us to objects that are strikingly similar to sense data or similar means employed by indirect realists in every case of perception. Because of this, object disjunctivists (although they can) will most likely not accept (10). The typical mental state disjunctivist will probably refute (10) for the same reason the object disjunctivist does; beyond this he will not see many reasons for employing mental objects, as accepting them would bring him nearer to Indirect Realism as he might actually wish.

(11) is supposed to follow from (9) and (10). Because (11) only speaks of some cases of perception (namely those of illusionary perception) and because it is a crucial claim of Object Disjunctivism that there are cases of perception in which the observer is aware of an object different from a physical one, it can easily be accepted by object disjunctivists. The mental state disjunctivist will most likely reject (11) for the same reasons he will not accept (10) – there is simply no reason for him to do so.

(12) is a case of an application of Leibniz' law of identity and is accepted by most philosophers. Since there is no other stable concept of identity until today, accepting (12) should not pose a problem for disjunctivists.

(13) follows, according to Robinson, from (11) and (12). Thanks to the distinction between at least two different ontological kinds of contents of experience, (13) is unproblematic for the object disjunctivist. The mental state disjunctivist will, on the other hand – for quite the same reasons as he would refute (10) – probably not accept (13).

(14) is meant to apply what (13) says of some (the illusionary cases) to all cases of perception. Cases of illusionary perception are, especially for the perceiving individual, difficult to accurately distinguish from cases of veridical perception. That and the fact, that in most cases of perception the object of awareness appears to possess at least slightly different sensible qualities than it actually possesses, lays near that both types of cases of perception have to be analyzed and treated equally. (14) alone could be easily accepted by all disjunctivists: The ontological status of the respective object of awareness cannot be determined by the perceiving subject, which does not change the fact that, for the object disjunctivist, the objects of veridical perception are still ontologically different from objects of illusionary perception and that for the mental state disjunctivist there are at least two different kinds of mental states – one for illusionary and one for veridical perception – which are indistuingishable for the subject having them. 'The same analysis' can now simply be understood as one procedure applied to all cases of perception to eventually determine the onto-

logical status of the objects of perception or the kind of mental state involved respectively. However, 'the same analysis' seems to refer to what happened in (9), (10), and (12) and therefore suggest, that in every case of perception there are those objects that could easily be interpreted as sense data or similar entities and will because of this most likely not be accepted by any disjunctivist.

(15) is thought of as a sentence inconsistent with Direct Realism and will typically be rejected by direct realists and especially so by disjunctivists.

3.2 Further exploration and analysis of the argument from illusion

As we did in section 2.2 concerning the argument from hallucination we will now reformulate the argument from illusion in a more precise way and then determine whether it is valid or not and what it says beyond our intuitive understanding of it.

Cases of perception always consist of a perceiving person and an object that is perceived by said person to which we will refer via the variables p and x respectively. (9) further tells us what it means that someone is perceiving an object that appears other than it actually is: that the perceived object appears to possess different qualities than it actually possesses. We can analyze this by assuming that there are $q_1, q_2, ...$ sets (whereas the number of these sets is not necessarily infinite) so that each of these sets consists of a combination of qualities an object can possess. At any given point in time there is exactly one such set that contains all and only those qualities a given object possesses at that time. In the following we will refer to points in time via the variable t and to sets of qualities of $q_1, q_2, ...$ via the variables q_i and q_j. Now we can represent (9) by saying that there are some cases of perception in which a person p perceives a physical object x at t so that x appears to p to possess a set q_j of qualities at t while x actually possesses a set q_i of qualities at t whereas q_i is different from q_j.[6] Because (9) speaks of only some cases of perception we have to existentially quantify over all used variables. In doing so we get the following precise reformulation of (9):

> **(16)** There are x, p, t and there is exactly one q_i and one q_j so that: x is physical, x possesses the set q_i of qualities at t and x appears to p to possess the set q_j of qualities at t whereas $q_j \neq q_i$.

To analyze (10) in a more precise way we need, analogous to the representation of (9), the variable p to refer to a person and the variable x that stands for the object that appears to p to possess a specific combination of qualities q_j at a specific point in time t.[7] As (10) should speak of all cases in which something

[6] In adding '$q_j \neq q_i$' we can represent the illusionary case while we can represent the case of veridical perception by adding '$q_j = q_i$'.

[7] Robinson speaks of *a sensible quality*, which is obviously not in accordance with his own formulation of the first premise where he clearly speaks of *sensible qualities*. So for the sake of the argument we adopted the formulation that is found in (9).

appears to someone to possess a set of qualities, we should universally quantify over the variables x, p, t and q_j. Since (10) also says that in all these cases there is at least one object that actually possesses the aforementioned set of qualities, we need the variable y to represent this object and should existentially quantify over y. Now we get the following more precise formulation of (10):

> **(17)** For all x, p, t and q_j: If x appears to p to possess a set q_j of qualities at t, then there is a y so that y possesses this set q_j of qualities at t and p is aware of y at t.

(11) says that in some cases of perception (especially in illusionary cases) there is an object the perceiver is aware of that actually possesses exactly the same qualities the perceived object appears to him to possess. We can represent this in the manner we are already familiar with: We refer to said person via the variable p, to the object that p perceives via the variable x, to the object that actually possesses the qualities that x appears to p to possess via the variable y, to the specific sets of qualities via the variables q_i and q_j and to a point in time via the variable t. Because (11) speaks of some cases of perception we have to again existentially quantify over all used variables. So we can say that there are x, y, p, t and exactly one q_i and one q_j so that x is physical, x possesses the set q_i of qualities at t, x appears to p to possess the set q_j of qualities at t, y possesses the set q_j of qualities at t and p is aware of y at t. But this formulation would be a little bit overhasty: As said before, the argument from illusion should spread from something that holds true for illusionary cases to all cases of perception which (14) is meant to achieve, so in order for the reformulation of (11) to remain at the illusionary cases it seems necessary to add '$q_j \neq q_i$'. In doing so we finally arrive at:

> **(18)** There are x, y, p, t and there is exactly one q_i and one q_j so that: x is physical, x possesses the set q_i of qualities at t, x appears to p to possess the set q_j of qualities at t (whereas $q_j \neq q_i$), y possesses the set q_j of qualities at t and p is aware of y at t.

We can represent (12) by speaking of different sets of qualities and again representing them with the variables q_i and q_j. Furthermore, we need the variables x and y to refer to objects that possess these sets of qualities. (12) can then be represented in saying that if an object x possesses the set q_i of qualities and an object y possesses the set q_j of qualities whereas q_j is again different from q_i, then y is different from x. Since it is often the case that one and the same object possesses different qualities at different times, the aforementioned sentence is only evident if we speak of x and y possessing different sets of qualities at the same point in time t. If we lastly universally quantify over all used variables we arrive at the following sentence:

> **(19)** For all x, y, t, q_i and q_j: If x possesses a set q_i of qualities at t and y possesses a set q_j of qualities at t (so that $q_j \neq q_i$), then $y \neq x$.

(13) says that in some (viz. the illusionary) cases of perception the object the perceiver is aware of is different from the physical object he is purportedly perceiving. The perceiver can again be represented via the variable p, the physical object he is purportedly perceiving via the variable x, the object he is aware of via the variable y and a specific point in time via the variable t. For the more precise version of (13) to actually follow from (18) and (19), we also need to employ our set-variables q_i and q_j (which are again not identical to each other for the same reasons as in (18)) again. It has to be noted that Robinson's original formulation (13) exchanges speaking of *something of which the subject is aware* to *that of which the subject is aware* i.e., he employs a designator where there was none before. That could only be justified by proving beforehand that there is exactly one object the subject is aware of in every case of illusionary perception, which simply does not happen in the argument. So in order to retain the validity of the argument, we will refrain to start referring to an object the perceiver is aware of via a designator and shall instead remain at an ordinary existential quantification:

> **(20)** There are x, y, p, t and there is exactly one q_i and one q_j so that: x is physical, x possesses the set q_i of qualities at t, x appears to p to possess the set q_j of qualities at t (whereas $q_j \neq q_i$), y possesses the set q_j of qualities at t, p is aware of y at t and $y \neq x$.

(14) is full of opaque terms and not very evident. Its logical function, as has been stated before, is to spread what (13) says of some (viz. the illusionary) cases of perception to all cases of perception. It could be replaced by a sentence such as 'If (13), then (15).' that is much weaker, easier to understand, and fulfills (from a logical point of view) the same function as (14). To represent this adequately we must only know how (15) can be explicated in our terminology and can then get the representation of (14) easily by embedding (20) and the reformulation (15) in an if-then-structure. To get said reformulation of (15) we only have to replace the existential quantification in (20) by a universal quantification and make one other little change: Since the formulation '$q_j \neq q_i$' in (20) limits what (20) says of the illusionary cases of perception, we only have to remove it to spread what (20) says to all cases of perception. We then can represent (14) and (15) by (21) and (22) respectively:

> **(21)** *If*: There are x, y, p, t and there is exactly one q_i and one q_j so that: x is physical, x possesses the set q_i of qualities at t, x appears to p to possess the set q_j of qualities at t (whereas $q_j \neq q_i$), y possesses the set q_j of qualities at t, p is aware of y at t and $y \neq x$. *Then*: For all x, y, p, t, q_i and q_j: If x is physical, if x possesses a set q_i of qualities at t, if x appears to p to possess a set q_j of qualities at t (whereas it is left open if $q_j = q_i$) and if y possesses the set q_j of qualities at t, then p is aware of y at t and $y \neq x$.
>
> **(22)** For all x, y, p, t, q_i and q_j: If x is physical, if x possesses a set q_i of qualities at t, if x appears to p to possess a set q_j of qualities

at t (whereas it is left open whether $q_j = q_i$) and if y possesses the set q_j of qualities at t, then p is aware of y at t and $y \neq x$.

(22) might not exactly be what critics of Direct Realism want as conclusion of the argument from illusion. It only says that whenever a physical object appears to someone in a certain way, said person is aware of another, different object. To clarify: Assume that a person is looking at a table with a banana and an orange on top. Now, the banana appears to that person while he is aware of the orange and at the same time, the orange appears to him while he is aware of the banana. Nowhere in the conclusion does it say that the person mistakes the object appearing to him for the object he is being aware of. So as long as one does not look (or employ any other mode of perception) at only one object – which is hardly even imaginable to be possible – this conclusion can easily be interpreted in a way in which it does not pose any threat to the direct realist at all.

A conclusion closer to the supposed intention and also Robinson's original formulation of the argument from illusion would be the following:

> **(22*)** For all x, p, t, q_i and q_j: If x is physical, if x possesses a set q_i of qualities at t, if x appears to p to possess a set q_j of qualities at t (whereas it is left open whether $q_j = q_i$), then there is exactly one y so that y possesses the set q_j of qualities at t, p is aware of y at t and $y \neq x$.

Provided that 'aware' refers to mental objects, this formulation would indeed force the direct realist to give up his claim that there are cases of perception in which the object the perceiver is aware of is identical with the physical object.

But even if it is not understood like that and we try to construct an example like the banana-orange-example for (22), we would arrive at some quite absurd consequences: It would, for instance, not be possible to look at a banana while at the same time being aware of two oranges even if there clearly are a banana and two oranges on a table in front of the viewer. So however one tries to twist and turn it, (22*) is a very real problem for anyone accepting its premises. This, however, is also where its problems lie: (22*) does not follow from (16)-(21), and the modified argument from illusion it *does* follow from is not as evident as one might have expected it to be. In this version of the argument the premises (17), (18), (20), and (21) have to be modified:

> **(17*)** For all x, p, t and q_j: If x appears to p to possess a set q_j of qualities at t, then there is exactly one y so that y possesses this set q_j of qualities at t and p is aware of y at t.
>
> **(18*)** There are x, p, t and there is exactly one q_i and one q_j so that: x is physical, x possesses the set q_i of qualities at t, x appears to p to possess the set q_j of qualities at t (whereas $q_j \neq q_i$) and there is exactly one y so that: y possesses the set q_j of qualities at t and p is aware of y at t.

(20*) There are x, p, t and there is exactly one q_i and one q_j so that: x is physical, x possesses the set q_i of qualities at t, x appears to p to possess the set q_j of qualities at t (whereas $q_j \neq q_i$) and there is exactly one y so that: y possesses the set q_j of qualities at t, p is aware of y at t and $y \neq x$.

(21*) *If*: There are x, p, t and there is exactly one q_i and one q_j so that: x is physical, x possesses the set q_i of qualities at t, x appears to p to possess the set q_j of qualities at t (whereas $q_j \neq q_i$) and there is exactly one y so that: y possesses the set q_j of qualities at t, p is aware of y at t and $y \neq x$. *Then*: For all x, p, t, q_i and q_j: If x is physical, if x possesses a set q_i of qualities at t, if x appears to p to possess a set q_j of qualities at t (whereas it is left open whether $q_j = q_i$), then there is exactly one y so that y possesses the set q_j of qualities at t, p is aware of y at t and $y \neq x$.

The biggest offender here is (17*): Assume someone has two same-color billiard balls in front of him. Those share the same set of *sensible* (the difference, if any, cannot be discovered by applying one's senses alone) qualities. According to (17*) he now cannot be aware of both of them at the same time because (17*) only allows him to ever be aware of a maximum of one object per set of sensible qualities. Since that seems rather counterintuitive it is hard to imagine that anyone would feel inclined to accept (17*), which of course then undermines the argument as a whole. (18*), (20*), and (21*) all follow via (17*) and are therefore all subject to the same problems as (17*).

As we have shown, the argument from illusion either (a) does not pose a threat to the direct realist (and much less the disjunctivist) in its first, more moderate version, as the conclusion can be interpreted in such a way that it does not detract from Direct Realism at all or (b) is simply founded on implausible premises in its stronger version, which is interestingly closer to Robinson's original formulation of the conclusion.

4 Conclusion

So what can be said about the arguments from hallucination and illusion? Are they really just would-be problems that serve no other purpose than to lead epistemologists all over the world astray?

In the case of the argument from hallucination it could be shown that the explication of Robinson's original formulation[8] is not valid and its premises actually lead to a conclusion[9] that could be used to support and argue for object disjunctivism, while the mental state disjunctivist would simply see no need to accept all premises in the first place. A version that does feature the originally intended conclusion[10] is, thanks to the modifications needed in its

[8] (5)-(8)
[9] (8*)
[10] (5), (6), (7*)/(7*^{2}) and (8)

premises, not as intuitively evident as Robinson's original formulation[11] and is, in any case, no threat for any kind of disjunctivist, while its significance for other direct realist positions has yet to be determined.

The argument from illusion can be formulated in two ways: In the first[12] it features a conclusion that does not pose a visible threat to any kind of direct realist position (and much less to disjuncitivists) while the second[13] is simply highly implausible in its premises[14] and would therefore only be relevant for theories that employed similarly awkward assumptions to begin with.

The initial question can now be answered with a 'no' for the argument from hallucination, as it is still relevant for the archetypical classic or naïve realist and therefore also remains as a reminder for any other direct realist to explain how hallucinations are compatible with his position. In the case of the argument from illusion, however, the answer is a clear 'yes': None of the explications found in this paper pose much of a threat to any direct realist position whatsoever and an explication that *does* possess actual relevance for Direct Realism has – if possible at all – yet to be found.

Appendix

As has already been mentioned in section 2.2, there is a multitude of ways to represent Robinson's version of the argument from hallucination. In the following we will, as an exemplary case, pick out one of these alternatve formulations (one that is quite convincing on the surface) and show that it ulitmately leads to the same problems as our reformulation (see section 2.2) does – it is just much less obvious here. The reformulation in question was given to us by Johannes Brandl:

(23) $Q(h, p)$.

(24) $O(h) = m$.

(25) For all x, y: If $Q(x, y)$, then $O(x) = O(y)$.

Therefore:

(26) $O(p) = m$.

'h' stands for the contents of hallucination, 'p' for the contents of perception and 'Q' for qualitative similarity. 'm' represents mental images (or any other applicable mental entities) and 'O' stands for 'the ontological category of ...'. Let us take a closer look at the logical components of the argument.

In (23) we have the logical parts 'Q', 'h' and 'p'. Q cannot be interpreted in any other way than as a relation constant. 'h' and 'p' are individual constants for the contents of hallucination and perception, respectively.

[11] (1)-(4)
[12] (16)-(22)
[13] (16), (17*), (18*), (19), (20*), (21*) and (22*)
[14] The main culprit being (17*).

Again, we have to find out how we can understand '*the* contents of hallucinations' in order to make the argument work. So let us assume the following: There is a randomly chosen object x so that x is hallucinated. Then x is a member of *the* contents of hallucination, i.e., it *belongs* to *the* contents of hallucination as they are represented by 'h'. Now assume you have another (randomly chosen) object y that is not hallucinated. Then this y would not belong to *the* contents of hallucination. So 'h' stands for something that represents all contents of hallucination and only the contents of hallucination. Considering this it seems only natural to assume h to be the set of all contents of hallucination. The same thoughts apply to 'p' in (23) and to 'm' in (24), i.e., 'h', 'p' and 'm' are all constants for specific sets.

Let us now take a closer look at (24): '$O(h)$' can either stand for a function or a set. So '$O(h) = m$' can be interpreted as (a) 'the set O (the set that contains everything that shares the same ontological status with the contents of hallucinations) is identical to the set m' or as (b) 'the function O that yields to h the set of all mental entities m'. Since we want to claim the contents of hallucination to *be* mental entities and not just presuppose some yet to be determined function between the sets h and m, (b) seems to be the choice to go with here.

So far so good. There is, however, still something quite odd about (23): Robinson most certainly did not intend to presuppose the qualitative similarity of two *sets* but of their respective *elements*. This means that we have to replace (23) with a formula that says something like 'if we have an x that is an element of h and a y that is an element of p, then x and y are qualitatively similar':

(23*) For all x and y: If $x \in h$ and $y \in p$, then $Q(x, y)$.

Now, if we want the argument to be valid, we have to introduce hallucinated and perceived entities x and y in the remaining premises and the conclusion as well, thus arriving at the following formulation:

(23*) For all x and y: If $x \in p$ and $y \in h$, then $Q(x, y)$.

(24*) For all y: If $y \in h$, then $y \in m$.[15]

(25*) For all x, y: If $Q(x, y)$ and $x \in p$ and $y \in h$, then $x \in O(p)$ iff $x \in O(h)$.

Therefore:

(26*) For all x: If $x \in p$, then $x \in m$.[16]

Unfortunately, (23*)-(26*) do not constitute a valid argument – we can, at best, gain a sentence analogous to 8* out of (23*)-(25*). Thus, this reformulation leads to exactly the same problems as (5)-(8) in section 2.2 did.

[15] Since: If $y \in h$, then $y \in O(h)$; and $y \in O(h)$ iff $y \in m$.
[16] Since: If $x \in p$, then $x \in O(p)$; and $x \in O(p)$ iff $x \in m$.

Acknowledgments We would like to thank the following for their input: Johannes Brandl, Christian J. Feldbacher, Nicole Mirnig and Lucia M. Pichler

References

Austin, J.L.: *Sense and Sensibilia*. Oxford: Clarendon Press, 1962.
Ayer, A.J.: *The Foundations of Empirical Knowledge*. London: Macmillan, 1940.
Fish, W.: *Perception, Hallucination and Illusion*. New York: Oxford University Press, 2009.
Hinton, J.M.: Visual Experiences. In: *Mind, 76*, S. 217-227, 1967.
Martin M.G.F.: The Transparency of Experience. In: *Mind and Language, 17*, S. 376-425, 2004.
Robinson, H.: *Perception*. London and New York: Routledge Taylor and Francis Group, 2001.