

Perceptual Experience: Non-Relationalism without Adverbialism

Non-relational views of perceptual experience are currently enjoying a resurgence of popularity, largely due to their ability to account for problem cases, like illusions and hallucinations, without relying on non-physical entities. Contemporary non-relational views are modelled on adverbialism. As such, they face an objection originally made by Frank Jackson which is almost universally regarded as constituting a refutation of the view. I argue that Jackson's well-known objection fails to hit its target. This is because Jackson conflates adverbialism understood as a metaphysical thesis with adverbialism understood as a proposal regarding how we should talk about our perceptual experiences if we want their metaphysical nature to be reflected in our language. Jackson has identified a problem with the adverbialist's terminology that leaves adverbialism (understood as a metaphysical thesis) untouched. What is even more interesting is that contemporary non-relationalists make exactly the same mistake as Jackson, and they defend their view by trying to fix the terminology. Now, it is possible to reformulate Jackson's challenge so that it does constitute a successful objection against adverbialism understood as a metaphysical thesis. However, we cannot reformulate the responses to the objection with equal success. In other words, the reformulated version of Jackson's objection does indeed refute existing non-relational views. My conclusion is not that we should abandon non-relationalism about perceptual experience; rather, we need a new kind of non-relational account. I develop a new form of non-relationalism which can respond successfully to Jackson's reformulated challenge.

1. Introduction

Non-relational views of perceptual experience have one particularly attractive feature: they are able to give a unified account of all perceptual experiences without positing relations to any kind of non-physical entity. In other words, they can provide an account of ordinary, illusory and hallucinatory experiences which is entirely compatible with a physicalist metaphysics. Since a commitment to physicalism dominates contemporary philosophy of mind, we might expect non-relationalism to be an extremely popular and widely endorsed position. As it turns out, non-relationalism has been a minority view ever since it was first introduced in the form of adverbialism, by Curt John Ducasse (1942) and Roderick Chisholm (1957). Its unpopularity is largely explained by the fact that quite soon after its inception, Frank Jackson formulated a simple, yet incredibly persuasive objection against adverbialism. The 'many properties' objection charges the adverbialist with failing to differentiate perceptual experiences which are obviously distinct. (Jackson 1977) The objection is generally taken to constitute an outright refutation of the view. However, more recently, a number of philosophers have recognised the enormous benefits enjoyed by non-relational accounts of perceptual experience, and have embarked upon a non-relationalist

restoration project. (Kriegel 2007, 2008, 2011, Mendelovici forthcoming, Papineau 2014, Nida-Rumelin xx)

Now seems to be the perfect time to re-launch non-relationalism as a serious contender in the debate over the nature of perceptual experience. Until recently, representationalism was the obvious choice for any physicalist philosopher looking for a unified account of all perceptual experiences. Representationalists claim that perceptual experiences represent the world to be a certain way, and they can do this without involving any essential relations to physical or non-physical entities. However, it has been pointed out by a number of philosophers that representationalist accounts seem to rely heavily on relations to non-physical entities when it comes to explaining the representational *content* of our experiences.¹ (Kriegel 2011, Mendelovici forthcoming, Papineau 2014, Schellenberg 2011b) Various non-physical entities can be found within representationalist ontologies, but the most common are abstract entities such as *propositions* (Byrne 2005, Glüer-Pagin 2014, Pautz 2007, Stoljar 2004 Thau 2002, Tye 1995), and (in many representationalist accounts of hallucinations) *uninstantiated properties*.² (See Bealer 1982, Bengson *et al.* 2011, Dretske 2000, Forrest 2005, Horgan, Graham & Tienson 2004, Johnston 2004, Lycan 2001, McGinn 1999, Pautz 2007, Sosa 2007, and Tye 2002, 2014a.) This dependence on essential relations to abstract entities is a rather surprising feature of a view which was formulated precisely in order to provide a thoroughly physicalist account of mind. Although

¹ For the purposes of this paper I am going to assume, with the representationalist, that we should indeed uphold the ‘common fundamental kind claim’ and aim to give a unified account of ordinary, illusory and hallucinatory perceptual experiences. I have considered the debate between representationalism and naïve realist disjunctivism in other work (citation removed). I argued that the original representationalist position is ultimately a disjunctivist view itself, and so fails in its claim to have an advantage over naïve realism in this respect. The ultimate aim of this paper is to develop a genuinely physicalist account of perceptual experience in response to the objection that representationalism fails to have an advantage over the sense-data theory when it comes to its metaphysical commitments.

² There are two reasons why proponents of the uninstantiated property account of hallucination must endorse the Platonic conception of universals (according to which they are abstract objects existing independently of their instantiations) rather than the Aristotelian view (according to which universals are always instantiated in particulars). First, if the representationalist was to take the Aristotelian route, they would have to say that hallucinations are relations to universals that are instantiated, but just not locally. This is problematic because representationalists claim that we are *aware* of red (say) during a hallucination. While it may be possible to *think about* instantiated red when red is not locally instantiated, it is difficult to understand the idea that one can be *aware of* instantiated red when it is not locally instantiated. Second, we can have hallucinations of properties which are not instantiated anywhere. For example, we would still be able to hallucinate red even if every red thing in the world had been painted another colour (example from Thompson 2008). Actual experiences of ‘impossible colours’ provide another example – by staring at a yellow circle on a grey background and then looking at a maximally black stimulus one will experience an impossibly dark blue. The experienced blue will be as dark as the maximally black stimulus, which is impossible for any objective blue. (See Churchland 2007 chapter 9 for other examples.) For a more detailed explanation of why proponents of the uninstantiated property view of hallucination are committed to the Platonic conception of universals, see (citation removed).

it is notoriously difficult to give a satisfactory definition of ‘abstracta’, everyone will agree that (whatever they are) abstracta will not meet the criteria (whatever *they* are) for being physical.

Just as representationalism is put forward as an account of mental states in general, the non-relationalist’s ability to explain seemingly relational mental states (such as hallucinations) without invoking any ontologically suspicious entities can also be exploited more widely. Indeed, some contemporary non-relationalists about perceptual experience have argued that we should be non-relationalists about all intentional mental states. (Kriegel 2007, 2008, 2011), Mendelovici, Nida-Rumelin)³ The wider project of trying to give a general account of our intentional mental states faces a challenge which is analogous to the challenge hallucinations present to theories of perceptual experience. Just as we can have hallucinations of non-existent objects, so can we think about (and have beliefs, hopes and desires about) non-existent objects. The non-relationalist’s formula for solving the hallucination problem by denying that such states are genuinely relational works just as well for other intentional states. It provides an excellent way of avoiding the task of producing some sort of entity to which our thoughts about Pegasus (say) are to be related.

This extension of the non-relationalist’s project to all intentional mental states has allowed the non-relationalist about perceptual experience to avoid one particular line of objection rather easily. Adverbialism is traditionally understood to be a view upon which perceptual experiences do not have intentional content. Examples of this assumption are easy to find. Michael Tye says: ‘... we could even deny that perceptual experiences *have* contents (as, for example, adverbial theorists do). [Tye, 2007: 610] And Tim Crane describes adverbialism as the view which explains ‘*all* features of what it is like to have an experience in terms of intrinsic, non-intentional qualities of experience’. [Crane 2006: 26] Since many philosophers who are keen to develop a physicalist account of perceptual experiences take these mental states to be paradigmatic intentional states, a view which cannot account for their intentionality is at a disadvantage. If we can be non-

³ It is worth mentioning that Kriegel has also argued that Brentano, who re-introduced the idea of intentionality into contemporary philosophy of mind, had a non-relational conception of intentionality. (Kriegel 2016) Brentano famously employed the notion of ‘intentional inexistence’ to define intentionality, which he describes as the fact that ‘all intentional states contain an object within themselves’. (Brentano 2009 (1874)) Whether or not Kriegel’s interpretation of Brentano is correct, a non-relational conception of intentionality is certainly one way of making sense of the idea of intentional inexistence. (Since Brentano was not a physicalist, another option was open to him – namely, that the object contained within the mental state is an actual *mental* object. This would be a relational view of intentionality, structurally similar to the sense-data theory of perception.) More importantly for our purposes, non-relationalism is the only *physicalist* way of understanding the idea that mental states contain an object within themselves.

relationalists about all intentional states, then we can uphold a non-relational account of perception while preserving the intentionality of perceptual experience.

Although the non-relationalist's position has been strengthened by the mounting criticisms of representationalism, Jackson's objection still exerts a restraining influence over philosophers who might otherwise be attracted to the view for its physicalist credentials. The first aim of this paper is to point out that Jackson's original objection against adverbialism relies on a mistake, and consequently misses its target. What is most interesting about this is that contemporary defences of non-relational views (which are based on adverbialism) are guilty of making the same mistake as Jackson. Now, while Jackson's objection can be reformulated so that it *does* constitute a serious challenge for non-relationalists, the same fix is not available to those wanting to respond to the challenge. I will argue that the recently developed responses to Jackson's challenge don't work against the reformulated version.

The second aim of this paper is more positive. Although I will have shown that existing non-relational views are refuted by Jackson's reformulated objection, it is still possible (indeed, desirable) to hold a non-relational account of perceptual experience. The existing versions of non-relationalism fail because they are modelled on adverbialism, and analyse perceptual experiences in terms of a one-place object-property relation. What we need is a new form of non-relationalism. The non-relational view I develop is based on the one-place *part-whole* relation. This new theory constitutes a significant move away from adverbialism, and as a result, it is able to respond successfully to the reformulated version of Jackson's challenge.

2. Adverbialism

Adverbialism is the original non-relationalist position. (Ducasse 1942, Chisholm 1957) It was designed to be a more ontologically parsimonious alternative to the (then popular) sense-data theory. Its proponents agree with sense-data theorists that we should include illusions and hallucinations within the category of 'perceptual experience' and should aim to give a unified account of all perceptual experiences, but whereas the sense-data theorist takes the apparent relationality of ordinary, illusory and hallucinatory experiences at face value (and analyses all these experiences as consisting in relations to sense-data), the adverbialist claims that the relational phenomenology of perceptual experience is misleading. In fact, perceptual experiences are

metaphysically unstructured, non-relational states of perceivers; they may be caused by interactions with the mind-independent ‘external’ world, but they are not constitutively relational. Adverbialists replace a two-place relation with a one-place object-property relation, and suggest we exchange our existing ‘relational’ terminology with terminology that better reflects the true metaphysical nature of perceptual experience. Accordingly, ‘I see red’ becomes ‘I see-redly’. ‘Redly’ is a way of experiencing - a property of, or modification of the experience - and not some *thing* to which the perceiver stands in a two-place relation. It is clear why this kind of non-relational view should be attractive to physicalists – it allows for a unified account of all perceptual experiences without requiring relations to any non-physical entities.

Some contemporary non-relationalists explicitly offer their accounts as improved versions of adverbialism. (Kriegel xx) Others defend non-relational views without making much reference to adverbialism at all, except to point out why their view doesn’t face the objections adverbialism faces. However, even these views are evidently modelled on adverbialism. For example, Martine Nida-Rumelin’s non-relational account also relies on a one-place object-property relation, just like adverbialism. The difference is that, whereas adverbialists attribute properties to experiences, Nida-Rumelin attributes properties (phenomenal properties) to the subjects of the experience. (Nida-Rumelin xx) The object-property relation is definitional of adverbialism, and as we will see, it is the failure to move away from this particular kind of one-place relation which results in the failure of existing non-relational views.

2.1 Adverbialism and Relational Phenomenology

Before considering Jackson’s objection to adverbialism, it is important to look at one other objection to the view. Perceptual experiences are distinctive in that they all have a markedly relational phenomenology, even hallucinations. Of course, non-relationalists will deny that this relational phenomenology reflects the metaphysical structure of the experience, but no-one can deny that perceptual experiences *seem* to involve relations to objects and properties. Tim Crane claims that adverbialism cannot account even for the apparent relationality of perceptual experience. (Crane 2006) This charge is not developed any further, but it presumably has its roots in the fact that perceptual experiences are metaphysically unstructured according to adverbialism.

It is this lack of structure which the ‘sees-redly’ locution tries to capture. The question the adverbialist must answer is how something which is metaphysically unstructured can have a relational phenomenology.

This issue is particularly pertinent for contemporary non-relationalists who are non-relationalists about all intentional states, and so think that perceptual experiences can have intentionality even on a non-relational framework. This is because the relational phenomenology of perceptual experience seems to be essentially bound up with their having intentionality. In other words, part of what it is for perceptual experiences to have intentionality is for them to *seem* to be relational. It is therefore particularly important for non-relational accounts of perceptual experience to explain why perceptual experiences seem to be relational; they need to be able to explain this in order to make good on their claim that the intentionality of perceptual experience can be preserved on a non-relationalist framework.

Contemporary non-relationalists have not sufficiently addressed the issue of explaining the apparent relationality of perceptual experience. One option the adverbialist could take (and their silence on this issue suggests that this is the option they would take) would simply be to deny that an explanation is called for. They can insist that explanation has to stop somewhere; non-relational, unstructured experiences *just are* phenomenologically relational, in the same way that water *just is* H₂O. This isn’t very satisfying however, since some non-relational, unstructured experiences (emotions, moods and beliefs for example) do not have the kind of relational phenomenology which characterizes perceptual experience. The adverbialist therefore does seem to owe us an explanation of why perceptual experiences have their distinctive (relational) phenomenology. As it stands, this objection against adverbial-style non-relationalism isn’t conclusive; we might think that proponents of this view will be able to come up with an explanation for the apparent relationality, and therefore the intentionality, of perceptual experience. However, even though the philosophers who have argued for a non-relational conception of intentionality have done so on a broadly adverbialist framework, there is one good reason for thinking that perceptual experiences cannot in fact qualify as intentional mental states on adverbialist-style non-relationalism. The reason will become clear through our discussion of the second objection facing adverbialist-style non-relationalism, to which we will now turn.

2.2 Jackson’s Many Properties Objection

In his 1977, Jackson developed an objection to adverbialism which also poses a challenge for any non-relationalist view. Jackson claims that in order to preserve the entailment relation between knowing that a subject is seeing a red square and knowing that they are seeing red, the adverbialist has to say that the subject is ‘seeing redly and squarely’. But if they take this route, they won’t be able to distinguish an experience of a red square and a green circle from an experience of a red circle and a green square – both must be described as ‘seeing redly and squarely and greenly and circularly’.

Kriegel has offered a two-stage response on behalf of the adverbialist. (Kriegel 2007, 2008, 2011) To begin with, we should describe the first experience as ‘seeing red-squarely and green-circularly’ and the second as ‘seeing red-circularly and green-squarely’. This is an option Jackson himself considers, and is prepared to accept as a response to the challenge of differentiating the two experiences. However, and as Jackson points out, if we take this option, then we lose the important entailment relation. This is because ‘red-squarely’ is an unstructured expression which does not have ‘red’ as a distinct syntactic part. In other words, we cannot legitimately deduce from the fact that someone is seeing ‘red-squarely’ that they are seeing ‘redly’.

Now for the second stage of Kriegel’s proposal. Kriegel aims to solve the entailment problem by appealing to the determinate-determinable relation. He claims that ‘seeing red-squarely’ is a determinate of the determinable ‘seeing redly’, therefore we *can* deduce from the fact that someone is seeing red-squarely the fact that they are seeing redly. In a recent paper, Alex Grzankowski has argued that the second stage of Kriegel’s proposed solution does not work. (Grzankowski 2017) It is essential to the determinate-determinable relation that something can only instantiate a determinable if it instantiates a determinate of that determinable. For example, an object cannot just be *blue*, it has to be azure or cerulean or cobalt blue...and so on. If *seeing-redly* is a determinable, then one cannot just see redly, one has to see red-squarely or see red-circularly.... But surely we want to allow that someone *can* just see-redly – this seems to be what happens during a Ganzfeld experience, for example. Grzankowski concludes that Kriegel’s attempt to save adverbialism from Jackson’s objection fails, due to the failure of the second stage of his response.

Although I think that Grzankowski’s criticism hits its mark, there is a more serious problem with Kriegel’s response. It seems to me that the adverbialism debate has been on the wrong track for a long time. Adverbialism is primarily a theory about the metaphysics of perceptual experience,

and yet the debate has been operating at the level of the *terminology* the adverbialist introduces to better reflect the underlying metaphysical nature of perceptual experience. Opponents of the view criticise it by attacking the adverbialist terminology, and more importantly, those who endorse adverbialism defend the view by trying to make the terminology work. However, an objection against the adverbialist's terminology is not necessarily an objection against adverbialism understood as a metaphysical thesis. Crucially, as we will see, a *solution* at the terminological level isn't necessarily a solution at the metaphysical level.

It is evident that both Kriegel and Jackson are working under the assumption that adverbialism stands or falls with its distinctive terminology. The first stage of Kriegel's response is a purely terminological fix - by introducing structure to the adverbialist's terminology, all Kriegel has done is to provide a way for the adverbialist to *describe* the two different experiences in different ways. The reason for thinking that Jackson has assumed that all is required is a rejection of the adverbialist's terminology is that he is open to the idea that his challenge could be met by fixing the problem at the terminological level. Jackson is willing to accept the first stage of Kriegel's solution: he allows that modifying the terminology to produce 'seeing red-squarely and green-circularly' as a way of describing an experience of a red square and a green circle, and 'seeing red-circularly and green-squarely' as a way of describing an experience of a red circle and a green square would be a legitimate response to the problem of accounting for the difference between these two experiences. The reason Jackson thinks that this move ultimately doesn't work *isn't* because it only operates at the terminological level, but because it leaves the adverbialist unable to explain the entailment between seeing a red square and seeing red. (Jackson 1977)

Grzankowski also seems to permit Kriegel's purely terminological solution to the problem of differentiating the two experiences, since he focuses his criticism on Kriegel's solution to the entailment problem (the second stage of Kriegel's response), which only arises if the first stage is successful. (For other examples of the adverbialism debate operating at the level of the adverbialist's terminology, see Dinges 2015 and Tye 1984.) We must remember that adverbialism is essentially a metaphysical theory of perceptual experience, and we should reformulate Jackson's objection with this in mind.

Let's redirect Jackson's objection so that it targets adverbialism understood as a thesis about the metaphysics of perceptual experience. If we do this, then the challenge for the adverbialist is not to make their terminology capable of *describing* the difference between an

experience of a red square and a green circle, and an experience of a green square and a red circle, it is to explain how these can be two different experiences in the first place. It is not difficult to see why the adverbialist is entirely unable to meet this demand. According to adverbialism, perceptual experiences are metaphysically unstructured. If experiences are metaphysically unstructured, then there is nothing at the metaphysical level which warrants binding (say) the ‘red’ to the ‘square’, and the ‘green’ to the ‘circle’. Both experiences simply involve a subject experiencing redly and greenly and circularly and squarely. In other words, although Kriegel proposes to *describe* the first experience discussed above as ‘seeing red-squarely and green-circularly’ there is no justification for this at the metaphysical level. The solution operates solely at the descriptive level. For the properties in question to be bound in the right way would require structure, yet it is simply part of the adverbialist’s view that perceptual experiences are unstructured.

The interesting conclusion we must draw is that adverbialism is *essentially* unable to respond to Jackson’s objection once it is redirected at the appropriate target – the metaphysics and not the terminology. For adverbialists, perceptual experiences are metaphysically unstructured, and any successful response to Jackson’s (redirected) objection is going to require structure at the metaphysical level. This point extends to any non-relationalist view modelled on the adverbialist’s one-place object-property relation. The important point to note, given how the adverbialist debate has been conducted so far, is that no amount of structure imposed at the descriptive level – the level of the adverbialist’s terminology – is going to deliver structure at the metaphysical level, which is where it is needed.⁴

3 Part-Whole Non-Relationalism

I have argued that adverbialism is essentially unable to respond successfully to Jackson’s many-properties problem once this has been appropriately directed onto the adverbialists metaphysical account of perceptual experience, rather than its terminology. However, we should not regard this failure of adverbialism as an indication that we should give up on non-relationalism entirely. On

⁴ Nida-Rumelin claims that her view is immune to Jackson’s objection because she holds that perceptual experiences have intentionality, and there will be a phenomenological difference between experiencing a red square and a green circle, and a green square and a red circle. However, since perceptual experiences are metaphysically unstructured on Nida-Rumelin’s account, my objection applies equally to her view - there is no explanation to be found at the metaphysical level for grouping the red with the square (and so on). Indeed, my objection is that non-relationalist views based on adverbialism cannot explain *why* there will be a phenomenological difference between the two experiences. At the metaphysical level, both experiences are exactly the same.

the contrary – non-relationalism is a particularly attractive position for anyone wanting to give a unified account of all perceptual experiences which is compatible with a physicalist metaphysics. I therefore advise leaving behind adverbialist-style, object-property non-relationalism and adopting a version of non-relationalism based on the one-place part-whole relation. Instead of analysing the different aspects of the content of the experience as being properties of the experience, we should think of them as being different *parts* of the experience.⁵ In other words, we should understand an experience of a red square as being composed of ‘experience-of-red’ and ‘experience-of-square’. (The hyphens illustrate that ‘experience-of-red’ is non-relational, and not to be understood as involving a relation to ‘red’.) So a red fire engine experience will share a part with a red tomato experience (assuming for the sake of simplicity that we experience these objects as having the same shade of red).

Considering the fine-grained functional specificity of our neural architecture, this proposal would seem to be reasonably straightforward, empirically speaking. The neural process which realizes a perceptual experience is composed of smaller systems of neurons, each of which is responsible for a part of the overall experience. We have discovered that small populations of neurons respond to faces (Sergent 1992), the orientation of edges (Hubel and Wiesel 1959, 1962) and so on. What we can learn from this empirical data is that perceptual experiences *are* structured. Even though they do not involve essential relations, either to objects in the physical world or abstract contents outside the physical world, perceptual experience do have an internal structure, but this is a part-whole structure rather than a relational (two-place) structure. It is the fact that perceptual experiences are indeed structured on part-whole non-relationalism which allows this view to respond successfully to the objections against adverbialist-style non-relationalism.⁶

Let me explain how my view can answer Jackson’s (redirected) challenge, starting with the need to explain the entailment relation between experiencing a red square and experiencing red. This can actually be accommodated very easily on my account: an experience of a red square is made up from an experience-of-red and an experience-of-square. That is, the neural process that

⁵ My view is compatible with a standard token identity theory of experience, according to which an experience just is a neural process. (Smart 1959, Feigl 1967, Place 1956) Since I have been motivating non-relationalism as the view anyone must accept if they want to be a physicalist, I do not expect any objections to my claim that an experience is a neural process from metaphysical considerations. Where physicalism is concerned, my aim all along has been to preach to the converted.

⁶ David Papineau also points out in his 2014 that perceptual experiences can be structured even on a non-relationalist framework.

realizes a red square experience is composed of neural processes coding ‘red’ and neural processes coding ‘square’. Since the experience-of-red is a *part of* the overall experience of a red square, it is evident why experiencing the latter entails experiencing the former. Notice that this explanation operates where it should – at the metaphysical rather than just the descriptive level. The reason why my account can explain why the entailment in question holds is that there is a relationship between an experience-of-red and an experience of a red square at the metaphysical level. Quite simply, the experience-of-red is part of an experience of a red square.

My part-whole version of non-relationalism can also respond successfully to Jackson’s (redirected) many-properties objection. I have already explained that part-whole non-relationalism is supported by empirical research into how experiences are realized in neural structures. It is also compatible with recent research in psychology, and with Anne Treisman’s feature integration theory in particular. (xx) According to the feature integration theory, the two experiences we have been considering (the experience of the red square and green circle, and the experience of the green square and the red circle) cannot in fact be differentiated at the initial stage of processing. Both experiences will be composed of neural processes coding red, green, square and circle. This is in-keeping with my proposal that we should think of different aspects of the content of our perceptual experiences as being different component parts of the overall experience. It is only at a later stage of processing, when the mechanism of attention comes into play, that the various parts of the experience are bound together in different ways. In the first experience, attention binds the red with the square, and the green with the circle. In the second experience, attention binds the green with the square, and the red with the circle. It is the fact that attention functions to bind different parts of the experiences together which explains how these experiences can be differentiated, even on a non-relational framework.

Now, somewhat fortuitously, this response to Jackson’s many-properties objection also functions as an answer to the other problem facing non-relational theories of perceptual experience, which was discussed in section one – the problem of accounting for the apparent relationality of perceptual experiences. I suggested that the fact that perceptual experiences seem to be relational – they seem to involve essential relations to objects in our local environment, for example – could be vital to the claim that perceptual experiences are intentional states. In other words, we may need to explain why perceptual experiences seem to be relational if we are to make good on the claim that they have intentionality. This is a problem which contemporary versions of

non-relationalism (which are modelled on adverbialism) haven't addressed sufficiently. My part-whole version of non-relationalism is in a much better position to be able to account for the apparent relationality (and possibly, therefore, for the intentionality) of perceptual experience. It turns out that the mechanism by which attention manages successfully to bind different aspects of the experience together doubles as an explanation for the apparent relationality of perceptual experience. Let me explain this in more detail.

Attention binds features together by placing those features at locations. For example, the neural process that codes for red places 'red' at a particular location relative to the subject of the experience, and the neural process that codes for square places 'square' at the same location relative to the subject. It is through being experienced as being at the same location that the red and the square are bound together. It should be clear why this answer to Jackson's many-properties objection is also able to explain why perceptual experiences have their relational phenomenology. Quite simply, experiencing features as being at particular locations simply *is* to experience oneself as standing in a two-place relation to those features. We experience the 'red' and the 'square' to be at the same location and it is their co-location that binds these properties together. But in order to experience properties to be at locations at all entails that one will experience these properties to be standing in a two-place relation to oneself. This apparent relationality characterises all of our perceptual experiences (ordinary, illusory, hallucinatory) and, I have suggested, could be essential to the intentionality of perceptual experiences.

In conclusion: I've argued that non-relational accounts of perceptual experience should be extremely desirable to anyone interested in giving a unified account of all perceptual experiences (veridical, illusory, hallucinatory) which is compatible with a genuinely physicalist metaphysics. Existing non-relational views are modelled on adverbialism, and adverbialism has been the recipient of two objections – first, that it cannot account for the apparent relationality of perceptual experience, and second, that it cannot respond to Jackson's many-properties objection. I noted that contemporary defenders of adverbialist-style non-relationalism have failed to explain the apparent relationality of perceptual experience, and that this issue could be important if apparent relationality turns out to be a vital part of what it is for perceptual experiences to be intentional states. Many modern-day non-relationalists advocate non-relationalism as an account of all intentional states, and so explaining the apparent relationality of perceptual experience should occupy a central position in their views.

Debates about adverbialism always seem to take place at the level of the distinctive terminology adverbialists introduced to reflect the unstructured metaphysical nature of perceptual experience. Opponents criticise the terminology for being unable to reflect differences between experiences, and defenders of the view try to save it by finding ways of making the terminology work. I have argued that this whole approach is mistaken. We should assess adverbialism solely in terms of its metaphysical account of perceptual experience. After explaining why Jackson's original objection was directed at the wrong target – the adverbialist's terminology rather than its metaphysics – I explained the failure of existing non-relationalists to respond to Jackson's (now redirected) objection. More importantly, I argued that adverbialist-style non-relationalism is essentially unable to respond to Jackson's objection. Perceptual experiences have to have some metaphysical structure in order for an experience of a red square and green circle to be different from an experience of a red circle and a green square, and it is simply part of the adverbialists view that perceptual experiences are unstructured. I have offered a new form of non-relationalism based on the one-place part-whole relation. On my view, perceptual experiences are structured, they have a part-whole structure, and so the view is able to respond to the objections that proved fatal to adverbialism.

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