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ORIGINAL RESEARCH

Naïve realism and sensorimotor theory

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Abstract
How can we have a sense of the presence of ordinary three-dimensional objects (e.g., an apple on my desk, a partially occluded cat behind a picket fence) when we are only presented with some parts of objects perceived from a particular egocentric viewpoint (e.g., the facing side of the apple, the unoccluded parts of the cat)? This paper presents and defends a novel answer to this question by incorporating insights from two prominent contemporary theories of perception, naïve realism and sensorimotor theory. Naïve realism is the view that perception is fundamentally a matter of obtaining a relation of 'acquaintance' with some mind-independent entities (e.g., objects, properties, events). Sensorimotor theory holds that perception involves implicit practical understanding or 'anticipation' of the covariance between movements and sensory changes. I argue that perceptual presence is best accounted for in terms of the combination of our direct 'acquaintance' with some parts of perceived objects and sensorimotor 'anticipations' of how the objects would look different depending on some movements and actions.

Keywords Perceptual presence · Naïve realism · Acquaintance · Sensorimotor anticipation · Fulfilment · Phenomenology

1 Perceptual presence

How can we have a sense of the presence of ordinary three-dimensional objects when we are only presented with some parts of objects or a scene perceived from a particular egocentric viewpoint? In seeing an apple on my desk, for example, I have a sense of the presence of one voluminous apple despite only being presented with its facing side from where I stand. Other 'unseen' sides of the apple (e.g., its backside,

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underside) are hidden from my current viewpoint (*here* and *now*). Similarly, in seeing a partially occluded cat behind a picket fence, I am aware of one whole cat despite some occluded parts of the cat not currently being in view. These are cases of 'perceptual presence' (Noë, 2004) where the relevant objects of awareness are *perceptually present* as wholes when some parts of them are, strictly speaking, unseen.

The issue of accounting for perceptual presence concerns how to accommodate the *dual* sense in which the relevant objects are experienced both in their 'partiality' and in their 'entirety'.[1] This paper develops a novel, phenomenologically grounded account of the dual sense of perceptual presence by integrating insights from two prominent theories of perception: naïve realism and sensorimotor theory. Naïve realism (or 'relationalism') is the view that perception fundamentally involves a relation of direct acquaintance between a subject and some mind-independent entities. Sensorimotor theory holds that perception involves the perceiver's implicit practical understanding of the dependence of sensory changes on movements. My suggestion is that perceptual presence can be plausibly accounted for in terms of the combination of direct 'acquaintance' with some aspects of the environment that are in view and sensorimotor 'anticipation' of how some aspects of the environment that are currently out of view would be revealed through explorative movements and actions. The combined view– *sensorimotor naïve realism*– is fully compatible with core theoretical commitments of naïve realism, whilst offering resources to secure the direct realist credentials of sensorimotor theory.

Section 2 considers some basic strategies that are available to naïve realists in accounting for perceptual presence. None of them, I argue, offers a satisfactory explanation that is fully compatible with naïve realism. Section 3 outlines a sensorimotor account of perceptual presence and raises three challenges to it. Section 4 shows how the combination of naïve realism and sensorimotor theory can yield a novel solution to the problem of perceptual presence, and defends the idea that naïve realism and sensorimotor theory are 'mutually supportive' (i.e., more plausible together than either is alone).

2 Naïve realism and perceptual presence

There has been an increased interest in naïve realism in recent years. According to naïve realism, perceptual experience is partly 'constituted' by some mind-independent entities that the subject is directly acquainted with (Campbell, 2002; Martin, 2002, 2004; Brewer, 2011; Soteriou, 2013; Allen, 2016). The theory is often claimed to best articulate how perceptual experience *seems* to us from a first-person perspective. On this view, in seeing the red apple on my desk, it is *that* apple and its particular properties (e.g., redness, round-shapedness) that constitute and explain the character of my visual experience. Different arguments for and against naïve realism have been discussed in the recent literature (Genone, 2016). In this paper, I draw attention to the problem of perceptual presence which poses an important challenge to naïve realism

[1] The very same issue about the 'perspectival' nature of perceptual experience concerned and was discussed extensively by classical phenomenologists (Husserl, 1913/2012; Merleau-Ponty, 1945/2012).

as it demands naïve realists to specify the relevant 'object' of awareness with which the subject is acquainted.

Two basic strategies are available for naïve realists when accounting for perceptual presence. The first option is to say that the subject is acquainted with the entire object despite the perspectival limitations of her perceptual field ('the whole object view'). The second option is to hold that the subject is acquainted with some perspectivally given parts of the perceived object given such limitations ('the perspectival parts view'). Neither of the basic options, I argue, provides a plausible explanation of the *dual* sense of perceptual presence.

2.1 The whole object view

The whole object view holds that perceptual presence is accounted for in terms of a subject's acquaintance with some mind-independent 'objects' in their entirety (henceforth, 'o-acquaintance'). This might be seen as the most straightforward, 'naïve' answer to the problem.[2] On this account, I am o-acquainted with the whole apple as a full three-dimensional object, not its facing side. Likewise, I am o-acquainted with the whole cat, not just some unoccluded parts of the cat. For, if otherwise, I would not recognize them *as such*, that is, as one whole apple or as one whole cat. One obvious worry here is that while this view successfully captures the sense in which I am directly aware of objects themselves, it leaves unaccounted for the sense in which I embody a particular and thus limited perspective from which I can only see some parts of the object perceived. In this way, the whole object view underspecifies our experience of some *parts* of perceived objects.

Suppose the thing on my desk is not a real apple but an apple depiction that merely appears voluminous. If I were to move towards or around it, I would eventually figure this out. Once realized, however, the object no longer appears the same way– that is, as a three-dimensional apple– even when looked at from the same vantage point. In other words, there is a genuine phenomenological difference between seeing the object *before* finding out that it is not a real apple but a mere depiction, and seeing it *afterwards*. In the latter case, my visual experience no longer involves the same sense of the presence of one whole voluminous apple.

There is a legitimate concern about whether proponents of the whole object view have relevant resources to account for such a case of 'phenomenal contrast' (Kelly, 2004; Siegel, 2010). For, if the perceived ('o-acquainted') object is the same in both cases (i.e., before and after realizing that it is not a real apple but a mere depiction), it is not obvious what is supposed to explain their phenomenological difference; if the perceived object is not the same, the phenomenology of one of the two experiences will be left unaccounted for. One might respond that the relevant case of phenomenological contrast is accounted for in terms of the fact that the former involves the illusion of being presented with a whole apple whereas the latter involves being (non-illusorily) acquainted with an apple depiction. This provides some grounds for think-

[2] That is, one might think that a direct realism about some perspectival parts of objects is not so 'naïve' or, at least, less naïve than a direct realism about objects themselves. Proponents of this 'pure' form of naïve realism may include Travis (2004).

ing that their phenomenological difference can be captured in terms of the obtaining of o-acquaintance. However, this way of accounting for the relevant case of phenomenal contrast requires a further explanation of the sense in which the whole object phenomenology is 'illusory'. For example, as it stands, it is unclear why the relevant object of awareness appears to have properties that it in fact lacks (e.g., the 3-D shape look of an apple depiction before realization).[3]

When explaining some phenomenological variation without variation in the object relatum, naïve realists are often attracted to the idea of a *third relatum* which encompasses various environmental and situational factors (e.g., lighting conditions, a relative spatiotemporal perspective) (Campbell, 2009; Brewer, 2011). The idea is to conceive of perceptual experience as involving a three-place relation between a subject, an object, and a 'standpoint'. The third relatum strategy is meant to offer a way of capturing the underspecified aspects of the phenomenology by appealing to the fact that we only have a 'partial awareness' of objects from a particular perspective (given some objective background conditions). In the above case of phenomenal contrast, the phenomenological difference between seeing an apple depiction *before* figuring out that it is not a real apple and seeing it *afterwards* is accounted for in terms of variation in the standpoint relatum as I move my body or head. The standpoint condition would then change the way in which the subject is perceptually related to her surrounding environment without changes in the (o-acquainted) object.

However, the worry is that it is not obvious how the third relatum strategy can help us in delineating the sense in which the subject is perceptually related to some *parts* of objects. For example, in seeing the apple as three-dimensional, it is intuitive to think that the facing and rear sides of the apple are present to me, albeit differently, thereby contributing to the overall phenomenology. Yet, it is unclear how appealing to a third relatum is meant to help us better specify the relevant kind of perceptual relation that obtains between the subject (me) and the non-perspectival parts of objects that are not currently in view (the apple's unseen sides). The third relatum approach leaves unaddressed the important task of accounting for how it is that the relevant 'o-acquainted' object includes something that is *not* strictly speaking 'seen'.[4]

2.2 The perspectival parts view

We now turn to the second option for naïve realists. According to the perspectival parts view, perceptual presence is accounted for in terms of the obtaining of an acquaintance between a subject and some perspectival parts of perceived objects

[3] I shall return to this issue later, explaining that my positive view makes it clearer how– on what basis– the whole object theorist might be entitled to claim that the whole object phenomenology is illusory (Sect. 4).

[4] The explanatory value of the third relatum strategy has recently been contested (Cavedon-Taylor, 2018; French, 2018). Others have argued that when accounting for phenomenal variation without variation in the object relatum, naïve realists can appeal to the role of the *subject* or the *perceptual relation* (Logue, 2012) or the *manner* in which one is acquainted with the objects of experience (Soteriou, 2013; French & Phillips, 2020). Regardless of their relationship with the third relatum strategy, these approaches are, at least in principle, consistent with two-place versions of naïve realism. I remain neutral on the issue about whether perceptual acquaintance ought to be characterized as a three-place relation rather than as a two-place relation. See, for instance, Travis (2004).

(henceforth 'p-acquaintance'). That is, in cases of perceptual presence, I am seeing ('p-acquainted' with) some perspectivally given aspects of the objects or the environment (e.g., the apple's facing side, the cat's unoccluded parts) from a particular spatiotemporal viewpoint (*here* and *now*). Yet, there remains a question about how I can have a sense of the presence of the relevant objects in their 'entirety' (e.g., as one whole apple, as one whole cat), not just in their 'partiality' (e.g., as an apple façade, as some bits and pieces of a cat). This would require an explanation of how I am perceptually related to those unseen, 'non-perspectival' parts of the objects that are not currently in view but nevertheless contribute to the overall phenomenology. That is, in delineating the sense in which the non-perspectival aspects of the environment somehow figure in experience, proponents of the perspectival parts view will have to go beyond their appeal to the 'p-acquaintance' relation which obtains between the subject and some perspectivally given aspects of the environment.

One obvious way of explaining how we experience the non-perspectival parts of objects would be to appeal to influences of some cognitive states on perception. For example, one may think that those aspects of the environment that are currently out of view are experienced not *perceptually* but *inferentially*, meaning that I come to 'believe' or 'infer' that some non-perspectival aspects of the environment exist and that they are such and such (Briscoe, 2011; Helmholtz, 1867/2005). For advocates of the perspectival parts view, this would mean that I form a belief about how the apple's backside or the cat's occluded parts might look based on what I am currently seeing (e.g., that the apple's backside is red and round, that the cat has a tail). In accounting for perceptual presence, they may then appeal to the idea that there is something it is like to form a belief about some non-perspectival aspects of the environment, assuming that the relevant kind of belief or belief-like state involves some distinctive kind of 'cognitive phenomenology' (Horgan & Tienson, 2002; Bayne & Montague, 2011).

Part of the motivation behind the appeal to cognitive phenomenology is its explanatory value in accounting for contrast cases where the phenomenological difference between two contrasting experiences is explained in terms of difference in cognitive phenomenology. For example, it is intuitive to think that there is some phenomenological difference between an expert ornithologist's experience of a type of bird and that of a novice and this phenomenological difference can be understood in terms of the contribution the expert's knowledge of different types of birds makes to the phenomenology. In the case of perceptual presence, this means that my prior knowledge about such mundane things as apples and cats can influence the degree of specificity of the content of my visual experiences.

This approach faces a number of worries, however. First, it is not entirely obvious how or why cognitive states should themselves have any phenomenology at all. Not only is it difficult to conceive of 'pure' cognitive phenomenology without any reference to the phenomenology of conscious sensory experiences, but it is unclear in what sense describing what it is like to form a belief about some non-perspectival aspects of the environment can further illuminate the nature of the relevant experience by elucidating the datum at issue (i.e., the phenomenology of seeing an object as three-dimensional when some parts of it are not currently in view). Second, a closely related question concerns whether the appeal to some 'non-perceptual' cognitive state could play any legitimate explanatory role in accounting for 'perceptual'

presence. Phenomenologically speaking, the sense in which the apple's backside or the cat's occluded tail figure in experience is perceptual (visual), not non-perceptual. It doesn't *feel* that I ('post-perceptually') make an inference or form a belief about those non-perspectival parts of perceived objects on the basis of perceiving some of their perspectival parts.

Proponents of the perspectival parts view may be drawn to an alternative explanation which appeals to our capacity to imagine things that are not currently in view (Nanay, 2010; Kind, 2018).[5] According to the 'imagery' view, the presence of those unseen parts of objects is a matter of *filling in* the relevant detail by some imagistic imagining or mental imagery.[6] In this view, what it is like to perceive one whole apple or one whole cat is explained in terms of the perceptual presence of their perspectival parts and the "imaginative presence" (Kind, 2018, p. 165) of those unseen, non-perspectival parts that are not in view by virtue of exercising one's imaginative capacities. The imagery view seems to take the phenomenology of the relevant experiences more seriously than the belief view, insofar as it characterizes the presence of the non-perspectival parts of objects as (in some relevant sense) 'quasi-perceptual', rather than 'non-perceptual'.[7]

There is a worry that concerns both variants of the perspectival parts view. While they successfully accommodate the sense in which I only perceive things from a particular, 'partial' viewpoint (via p-acquaintance), appealing to some belief or mental imagery in accounting for the presence of non-perspectival aspects of objects doesn't itself give us the 'whole object' phenomenology (e.g., the sense in which one whole apple is perceptually present to me). In response, proponents of the perspectival parts view might insist that when one experiences an object as three-dimensional without being acquainted with its rear side, one is acquainted with the object's facing side, *believes* or *imagines* that one is looking at a spherical object, and this then modifies the acquaintance relation such that one experiences the object to be a sphere.

However, this way of accounting for the whole object phenomenology should be taken with much caution, for it might be taken to give explanatory priority to such cognitive states as belief and mental imagery over our perceptual experiences of objects. This then threatens to undermine the core naïve realist idea that the obtaining of acquaintance (with an object) is 'more primitive and explanatorily basic' than the obtaining of a psychological state with some representational content (about *that* object) (Campbell, 2002; Soteriou, 2013). From a naïve realist perspective, the reason why we can experience objects as three-dimensional is because of our 'basic' perceptual capacities, rather than some 'high-level' cognitive capacities that are involved in belief formation, mental imagery, episodic memory, and so on. Indeed, we do normally think that non-human animals and human infants, who lack some of those high-level cognitive capacities, can nevertheless perceive 3-D objects. The

[5] The role of imagination in perception has been an important theme in the history of analytic philosophy (Kant, 1781/1998; Strawson, 1970).

[6] It is often claimed that imagination is a broader concept than imagery, encompassing both 'imagistic' and 'non-imagistic' (e.g., suppositional) imaginings (Walton, 1990; Langland-Hassan, 2015; Gregory, 2016).

[7] The imagery view might be taken to appeal to non-perceptual cognitive phenomenology. On such a reading, the imagery view would simply collapse into the belief view.

point is that admitting that our perceptual experiences of objects are constitutively determined by such 'cognitively demanding' capacities as belief formation and mental imagery would be to *overintellectualize* perception. Note that this sort of worry about overintellectualizing perception doesn't seem to arise even if we are to concede that some basic 'conceptual' or 'attentional' capacities may be incorporated within the structure of perception itself (McDowell, 1994; Brewer, 2011). The weight is much heavier in the former case.

To be clear, my point here is not that appealing to cognitive phenomenology or cognitive influences on perception is a non-starter or is in principle inconsistent with naïve realism per se. I am simply suggesting that such an approach should be taken with much caution. A more sensible approach might be to consider the appeal to cognitive effects on perception as a last resort when there is no other plausible way of elucidating the phenomenological datum at issue (i.e., the dual sense of *perceptual* presence) in terms of what is intrinsic to perception itself.[8] In this paper, I propose and defend one such account of perceptual presence based on a phenomenologically grounded account of the structure of perception itself. Before I go on to do so, let me consider another candidate solution to the problem of perceptual presence.

3 Sensorimotor theory and perceptual presence

Sensorimotor theory holds that perception involves patterns of dependence of sensory changes on movements and our implicit practical grasp of such patterns of dependence (Hurley, 1998; O'Regan & Noë, 2001; Noë, 2004). According to this view, to be a perceiver is to possess and exercise some implicit (rather than explicit) practical (rather than propositional) understanding of the ways in which how things appear varies depending on some movements (i.e., sensorimotor knowledge). As I will show, although it has its own merits, the sensorimotor view of perceptual presence faces several challenges, giving us reasons to think that it cannot by itself give a satisfactory solution to the problem of perceptual presence.

3.1 The sensorimotor view

Noë (2004, 2005, 2006, 2008) develops and defends an 'access-based' account of perceptual presence based on his sensorimotor theory of perception. According to him, we have a sense of the presence of some objects in the environment because in perceiving we gain *access* to them by virtue of our possession and exercise of relevant sensorimotor skills. The apple is present as a voluminous whole because of my practical grasp of the ways in which the apple's perspectival look would change depending on movements (of my body or head). Likewise, I can see the partially

[8] Alternatively, naïve realists might simply deny that what psychologists call 'cognitive penetration' occurs at the *personal* level of perception (French & Phillips, 2023), and instead construe cognitive influences on perception in terms of the 'causal' role of some cognitive states in *enabling* us to perceive worldly particulars without themselves being phenomenal states. However, this approach would again leave unaddressed the issue of accounting for the sensed presence of non-perspectival aspects of perceived objects.

occluded cat as one whole cat because I 'know' how the occluded parts of the cat would be revealed if either the cat or I were to move.

The sensorimotor view of perceptual presence encompasses two core claims: the 'dual content' view and the 'virtual access' view. First, in delineating the 'dual' sense in which we experience objects in their entirety and in their partiality, Noë appeals to the duality of perceptual experience which encompasses a *perspectival* dimension (that is determined by 'how things appear') and a *factual* dimension (that is associated with 'how things are'). According to his 'dual content' view, our sensorimotor knowledge of the dependence of changes in *perspectival* content on movements is a necessary condition for an experience to acquire *factual* content. Faced with the apple's front look from where I stand (a perspectival content), I can still experience one voluminous apple (a factual content) by virtue of my sensorimotor knowledge of how the apple's perspectival appearance or apparent properties (e.g., colour, shape, size) would vary depending on movements. In this sense, for the sensorimotor theorist, perceiving is to make contact with 'how things appear', learn to understand some law-like patterns of dependence of these appearances on movements, and thereby discover 'how things are'. The dual content view offers a natural starting point when delineating the dual sense of perceptual presence, giving some credence to the sensorimotor theorist's solution to the problem of perceptual presence.

Second, Noë claims that various aspects of the environment show up in experience thanks to our possession and exercise of relevant sensorimotor skills that give us 'access' to them. According to his 'virtual access' view, the relevant kind of access is *virtual* in the sense that those aspects of the environment are present in experience as available to me, "as a potentiality" (Noë, 2006, p. 427). This, he claims, is analogous to the way that information on a website is available to us 'virtually'. As he puts it, the sensed presence of environmental aspects is a matter "not of our feeling of immediate contact with those features, but of our feeling of access to those bits of detail" (Noë, 2006, p. 422). In cases of perceptual presence, the feeling that I have 'access' to those missing bits of detail in the environment that are currently out of view (e.g., the apple's rear side) is grounded on the fact that I possess some relevant sensorimotor skills needed to bring them into view. On sensorimotor theory, the feeling that I come into 'contact' with some objects is explained in terms of their 'virtual accessibility' to me via my sensorimotor knowledge about how their perspective-dependent aspects would vary depending on possible movements.

Crucially, for Noë, perceptual experience is "virtual *all the way in*" (Noë, 2006, p. 427), meaning that perceived objects and their perspectival (and non-perspectival) parts are all given in experience in the same manner: as accessible. When faced with the front side of the apple, I have 'access' to one whole apple that is available to me *here* and *now* thanks to my sensorimotor skills. The same applies to the perspectival parts of objects. Although I can never embrace its colour, shape, and extent in full all at once, I have a sense that the apple's facing surface is all there before me thanks to my practical mastery, say, of the dependence of sensory changes on the ways I direct my attention to this or that feature of the facing surface. Furthermore, I enjoy the same kind of 'access' to other unseen sides of the apple that are available to me *here* and *now*, albeit virtually. In this view, the difference between the sense in which the apple's facing side is virtually accessible to me and the sense in which the rear side

is available to me is a matter of degree, not kind. The point is that neither the apple itself nor its perspective-dependent parts are present to me as completed givens, but always as possibilities for explorative movements and actions that are afforded by the environment.

3.2 Challenges for sensorimotor theory

Sensorimotor theory faces a number of challenges. First, there is an apparent tension between the sensorimotor theorist's claim that our coming into contact with some patterns of how things appear *is* our way of coming into perceptual contact with some mind-independent objects, and the 'direct realist' view that in perceiving we are directly aware of some mind-independent objects themselves. On one reading, the former might be taken to suggest that appearances are *metaphysically and explanatorily prior to* objects themselves. This may mean that sensorimotor theory could easily collapse into a form of phenomenalism (the view that we are only aware of mind-dependent appearances) or idealism (the view that there is no mind-independent world) (Berkeley, 1710/2009).[9]

The sensorimotor theorist responds that appearances *are* genuine properties of mind-independent objects in the sense that we gain access to how things are *by* coming into contact with their 'surface-like' looks or appearances. He writes,

> Looks are not mental entities. Looks are objective, environmental properties. They are relational, to be sure. But they are not relations between objects and interior, sensational effects in us. Rather, they are relations among objects, the location of the perceiver's body and illumination (Noë, 2004, p. 85).

According to Noë, I see things themselves *by* seeing 'how they look from a particular viewpoint' (i.e., the perspectival parts of perceived objects). On his account, the perceiver's sensorimotor knowledge plays an important 'mediating' role, bridging the gap between appearances and reality. Those aspects that are not currently in view (i.e., the non-perspectival parts of objects) amount to properties of the mind-independent world in as far as they are experienced as genuine possibilities for exploration (i.e., 'accessible' to me) thanks to sensorimotor understanding.

However, a sceptic may still contend that the appeal to the mediating role of sensorimotor understanding does not suffice to secure the mind-independent status of appearances and the direct realist credentials of sensorimotor theory. For it is unclear in what sense those appearances are genuine properties of mind-independent objects, not some mind-dependent intermediaries that act as a *veil of perception*. That is, the claim that our perceptual contact with real objects in the environment is mediated by patterns of appearances and our practical grasp of them may be viewed at best as a form of indirect realism (the view that our awareness of the mind-independent reality is 'mediated' by some mind-dependent intermediaries) (Locke, 1689/1975).

[9] Allen (2009) raises a similar worry about the explanatory priority given to things '*looking* coloured' over things '*being* coloured' in Noë's sensorimotor account of colour.

Moreover, even if we grant that appearances are mind-independent properties, there is a worry that they will get in the way of 'real' objects and properties.

Given the 'two-level' interpretation of perceptual experience and the emphasis on our 'virtual access' to things via sensorimotor understanding, there is a serious concern that sensorimotor theory leaves us with no explanation of how we could come into contact with some perspectival aspects of the mind-independent world at all (Martin, 2008; Campbell, 2008). The danger is that, on sensorimotor theory, perceptual experience could collapse into "a set of counterfactual implications for sensorimotor activity" (Campbell, 2008, p. 667) without making an actual 'touch-like' contact with the world.[10] Mere virtual accessibility to things and their perspective-dependent properties does not suffice to establish the kind of externalism that the sensorimotor theorist wishes to retain.

The second objection concerns whether sensorimotor theory can provide a plausible explanation of the 'particularity' of perceptual experience (Leddington, 2009; Ward, 2022). For example, it is not obvious how coming into contact with some 'general' patterns of looks or appearances can be a way of coming into contact with some 'particular' features of the environment. Appearances are 'general' properties in the sense that different things can share more or less the same looks or appearances from a particular viewpoint (e.g., a real apple and an apple façade seen from *here* and *now*) or in some specific circumstances (e.g., seeing a red apple in normal daylight and a bleached apple in red lighting). In this way, there arises a tension between the generality of appearances (as properties of mind-independent objects) and the particularity of the directly sensible properties of objects that we perceive.

On sensorimotor theory, perceptual presence is accounted for in terms of some 'general' patterns of dependence between possible movements and the ways some environmental aspects are accessible to the perceiver's 'particular' perspective. In this sense, the sensorimotor account of perceptual presence places particularity on the subject's side, not on the object's side, leaving unspecified what the relevant object of awareness amounts to (i.e., 'what' is accessible). As it stands, the theory seems to lack resources to explain how we can experience some particular phenomenal properties of objects. The key thought is that mere virtual accessibility to some aspects of the environment does not suffice to 'pick out' or 'individuate' the particular phenomenal properties that each perceptual experience instantiates.

The third objection concerns whether sensorimotor theory can adequately explain the various ways in which our perceptual experiences can gain determination over time. Looking at a speckled hen, my visual experience has an indeterminate character in that I see the hen as speckled without seeing the exact number of speckles it has. The speckled hen is present to me *here* and *now*, albeit indeterminately. On sensorimotor theory, the relevant kind of indeterminacy is explained in terms of the idea that we only have 'partial access' to aspects of the environment that we are sensorimotorily coupled with. Nevertheless, those aspects that are given indeterminately

[10] Leddington (2009) rejects Noë's claim that our contact with 'how things appear' can be understood on the model of touching. He argues that appearances are identical neither with objects themselves nor with any of their parts, for they are not touchable whereas parts (of perceived objects) are. According to him, the metaphor of 'touch-like' contact is best captured by the naïve realist's notion of acquaintance.

(e.g., some particular number of speckles) are 'virtually present' to me thanks to my understanding of how they would be revealed depending on possible movements (e.g., if I were to move closer to the hen).

However, this way of accounting for perceptual indeterminacy– in terms of virtual accessibility– doesn't seem to do full justice to the various ways in which those aspects of the environment that are not currently in view could be revealed and thereby our sensorimotor anticipations could gain determination in a dynamic manner. For example, my anticipations about there being a dimple on the apple's currently unseen backside may or may not be fulfilled as I move around it. There will also be more detail coming into view as I move closer to it or attend to some parts of it. Sensorimotor theory, in its current form, leaves unaccounted for the phenomenological significance of the dynamic process of 'fulfilment' of sensorimotor anticipations that is distinct from the significance of the anticipations themselves.[11] For example, the fulfilment or non-fulfilment of my anticipations about how my experience of the speckled hen would unfold is not simply a matter of my own movements and actions in relation to it but how it moves in relation to me. Given the particular emphasis the sensorimotor theorist places on the constitutive and explanatory role of embodiment and the perceiver's own bodily skills, the 'object-dependent' nature of perception is often overlooked (Cavedon-Taylor, 2011).

I have raised three objections to sensorimotor theory, arguing that the view, as it stands, cannot fully accommodate (1) the intuitive sense in which we have a direct and immediate contact with aspects of the mind-independent reality, (2) the fact that in perceiving we are consciously and sensorily aware of some particular phenomenal properties, not just some general patterns of perspectival appearances, and (3) the sense in which perceptual experience could gain determination over time in virtue of a dynamic process of fulfilment of anticipations. Although these objections may not establish a knockdown argument against sensorimotor theory, they provide some grounds to think that the sensorimotor theorist should be forced to address these issues more explicitly than they have up to now. In the next section, I propose a way of coming to grips with these issues by incorporating insights from naïve realism and sensorimotor theory within a single cohesive framework.

[11] The idea that our anticipations about how experiences would unfold are always liable to being 'fulfilled' is rooted in the Phenomenological tradition (Husserl, 1900/2001; 1907/2010; 1913/2012; 1931/1960; Merleau-Ponty, 1945/2012). On Husserl's account, we perceive an object as a whole when its facing side is given 'fully' and its currently unseen sides 'emptily'. The relevant experience is dynamically constituted by a process of fulfilment through which what is initially emptily given (e.g., the apple's rear side) can gradually come to at least some partial fulfilment as the subject's vantage point varies (e.g., as she moves around, towards, or away from it). In this view, at least some aspects of every perceived object are given in experience 'emptily', and the dynamic transition from empty givenness to full givenness is necessary for an experience of an object.

4 Sensorimotor naïve realism

My alternative account of perceptual presence integrates naïve realism (the perspectival parts view) and sensorimotor theory in a particular way. In this section, I outline some of the basics of *sensorimotor naïve realism* and defend the compatibility of naïve realism and sensorimotor theory. I then provide some reasons to prefer my suggested view over Noë's 'access-based' view of perceptual presence. Finally, I argue that the proposed combination is mutually beneficial, for it offers a highly attractive solution to the problem of perceptual presence that complements naïve realism, whilst providing relevant resources to come to terms with the above-discussed challenges to sensorimotor theory.

4.1 Combination

Sensorimotor naïve realism holds that perceptual presence can be plausibly accounted for in terms of the combination of direct 'p-acquaintance' with some perspectival aspects of the environment that are currently in view and sensorimotor 'anticipations' about how some non-perspectival aspects of the environment that are currently out of view would be revealed through movements and actions. On this account, when I am p-acquainted with the apple's facing side, I still have a sense of the presence of a full voluminous apple by virtue of my practical grasp of the ways in which the apple's hidden sides would be revealed if I were to move my body or head. Likewise, when I am p-acquainted with the cat's unoccluded parts, I still have a sense of the presence of one whole cat by virtue of my anticipation of how the appearance of the cat with currently occluded parts would change depending on my or the cat's movements.[12]

There are reasons to think that naïve realism and sensorimotor theory are compatible. First, neither of them has to be seen as presenting an 'exhaustive' account of perceptual experience, meaning that both are compatible with a *pluralistic* approach to perceptual phenomenology. Naïve realism holds that perceptual phenomenology is 'at least in part' constituted by some mind-independent entities. Similarly, sensorimotor theory *can* be construed as suggesting that perceptual phenomenology is 'at least in part' constituted by the perceiver's practical mastery of the covariance between appearances and movements. The combined claim would be that perceptual phenomenology is constituted *partly* by direct acquaintance with aspects of the environment that are in view and *partly* by sensorimotor anticipations about how aspects of the environment that are currently out of view would be revealed depending on movements.

Note that p-acquaintance is a much less demanding notion than o-acquaintance which might be taken to exhaust the phenomenology of our experiences of objects. This means that the obtaining of p-acquaintance does not suffice for the occurrence of

[12] A parallel story could be told about perceptual (shape, size, colour) constancy. Sensorimotor naïve realism has resources to explain how I can experience some apparent, perspective-dependent aspects of objects that vary (e.g., the ellipticity of a coin viewed from a tilted angle, the redness of a white wall in red lighting), whilst experiencing some invariant aspects that remain constant (e.g., the circularity of the coin, the whiteness of the white wall). In seeing a tilted coin, for example, I am p-acquainted with the coin's elliptical look whilst anticipating its circularity.

a perceptual experience of an object; it must be accompanied and contextualized by one's practical grasp of sensorimotor variations. In this way, however, the suggested view does not compromise, but fully embraces, the naïve realist idea that perceptual phenomenology is determined by, and thus to be explained 'at least in part' in terms of, the obtaining of a *sui generis* non-representational relation of acquaintance between a subject and some aspects of the mind-independent world.[13]

Second, both naïve realism and sensorimotor theory are *direct realist* views in their own rights. The direct realist commitment of sensorimotor theory amounts to the idea that perception involves our unmediated, non-inferential 'access' to the environment by virtue of our sensorimotor understanding. In this view, the notion of sensorimotor understanding is meant to take over the explanatory role that had previously been ascribed to neural functions and internal mental representations in the traditional computational accounts of perception in cognitive science (Marr, 1982). This is consistent with the direct realist commitment of naïve realism which amounts to the idea that perception involves our immediate 'touch-like' relation of acquaintance with some mind-independent entities (e.g., objects, properties, events), not mind-dependent intermediaries (e.g., sense data). The difference is that in addition to their direct realist commitment, naïve realists are also committed to a metaphysical thesis about the nature of perception, namely that those mind-independent entities that we are acquainted with are 'constituents' of perception. Sensorimotor naïve realism– by implication– inherits the direct realist commitments of the two theories. It thereby resists all 'scientific' theories of perception that appeal to internal mental representations to explain phenomenal consciousness in some reductive sense, whilst fully embracing the 'externalist' commitment of naïve realism (i.e., the idea that perception is constitutively determined by mind-independent entities).

Third, naïve realism and sensorimotor theory are compatible insofar as they share an *anti-intellectualist* conception of perception. The 'anti-representationalist' slogan of sensorimotor theory can be traced back to the phenomenological notion of 'operative' or 'motor' intentionality that is *more primitive* than 'intellectual' kinds of intentionality (e.g., thought, judgment, belief) (Husserl, 1913/2012; Merleau-Ponty, 1945/2012).[14] The notion of sensorimotor understanding is rooted in this primitive type of bodily intentionality that "involves an intention that is mediated not by representation, but by the anticipations involved in bodily movement and action" (Matherne, 2017, p. 714). This is consistent with the naïve realist's claim that perception is 'non-representational' insofar as it involves the obtaining of acquaintance that is *more primitive and explanatorily basic* than the obtaining of a psychological state with some representational contents with accuracy conditions (e.g., belief, thought).[15]

Note that this is not to say that naïve realism and sensorimotor theory share the same 'anti-representationalist' commitment. They do not. While sensorimotor theory

[13] Much of the literature on naïve realism ignores what the 'at least in part' element of this claim leaves open; and when that issue is raised, it is often assumed that an appeal to qualia and/or representational content exhaust the further possible options. I am suggesting here that there is some mileage in pursuing alternative options (e.g., sensorimotor anticipation). See also Kim (2022).

[14] It also has roots in the 'anti-cognitivist' emphasis in ecological psychology (Gibson, 1979).

[15] See Allen (2019) for the compatibility between the notion of operative intentionality and naïve realism.

opposes the idea that perception is fundamentally a matter of generating detailed internal representations or world-models by virtue of some neural processes and mechanisms, naïve realism is most concerned with the idea of explaining the subjective or phenomenal character of perceptual experience in terms of the content of some representational states with accuracy conditions.[16] Nevertheless, their spirit is the same: we should not *overintellectualize* perception, making it too 'thought-like' or 'belief-like' whether on the subpersonal, neural level or on the personal, phenomenological level. The combined view naturally embraces anti-intellectualism, where perception is characterized in terms of direct awareness of features of the environment (via acquaintance) and knowing how to interact with them (via sensorimotor skills) on the pre-reflective or pre-predicative level.[17] In epistemological terms, neither our 'acquaintance knowledge' nor 'knowledge-how' is reducible to the kind of 'knowledge-that' that is propositional in nature (e.g., judgment, belief, thought) (Russell, 1910; Ryle, 1949).[18]

4.2 Departing from Noë's view

Sensorimotor naïve realism accounts for perceptual presence in terms of the combination of p-acquaintance and sensorimotor anticipations. This is notably different from Noë's view which would give explanatory priority to the latter over the former. The thought would be that the kind of acquaintance relation that obtains in our perceptual experience of objects ought to be analyzed in terms of sensorimotor relations. In this sense, Noë goes on to suggest that his version of sensorimotor theory is "as naïve realist as one can hope to be" (Noë, 2008, p. 703). However, on sensorimotor naïve realism, the notion of 'p-acquaintance' offers something that is missing in his view: an *anchor* to the mind-independent reality. It plays a distinct explanatory role in delineating the presence of perspectival parts of mind-independent objects, and thereby clarifies the right kind of externalism that the sensorimotor theorist should embrace in order to secure the direct realist credentials of sensorimotor theory.

According to Noë's 'access-based' view, perceptual experience is 'virtual *all the way in*'. This means that perspectival and non-perspectival parts of objects as well as objects themselves are all given in experience in the same manner, as 'virtually accessible', thanks to the perceiver's sensorimotor knowledge. On the contrary, sensorimotor naïve realism recommends an 'acquaintance-based' view, according to which perception is most fundamentally a matter of being 'anchored' to aspects of

[16] It is worth noting that the relationalist commitment of naïve realism does not suffice to distinguish it from *all* forms of representationalism (McDowell, 1994; Logue, 2014). This leaves open the possibility of genuine 'hybrid' interpretations of naïve realism and sensorimotor naïve realism. I remain neutral on this delicate issue.

[17] This anti-intellectualist commitment is also to be distinguished from some representationalist views that appeal to *non-conceptual* content (Evans, 1982; Peacocke, 1992). For opposition, see Brewer (2000) and McDowell (1994). On Noë's (2004) view, our capacity to keep track of the dependence of perception and action is firmly integrated with personal-level *conceptual* skills. This is consistent with my suggested view.

[18] There are also reasons to think that acquaintance knowledge or 'knowledge-of' (e.g., knowing places) cannot be reducible to the traditional 'knowledge-how' that involves active skill (e.g., playing the piano) (Kukla, 2022).

the environment that one is p-acquainted with. Consider an analogy. When a floating boat is moored at a dock, the fact that it doesn't get swept away by the sea is not simply a matter of how the disposition of the boat would change depending on how the waves move; but also a matter of being securely 'anchored'. Similarly, my visual experience of the apple as a voluminous whole is *not* simply a matter of, and thus to be explained solely in terms of, my practical mastery of how the apple's look would change depending on some possible movements; it is also a matter of being tightly anchored to it by virtue of being acquainted with its perspectival parts. In our everyday perceptual life, we are usually in a position to latch on to those 'anchorage points' afforded by the environment. Were there no such anchorage points, I would not have the sort of confidence that I have in seeing things *as such* in spite of ever-changing sensorimotor variations that we are situated in (e.g., seeing and recognizing the apple as one voluminous whole in spite of perspectival variations).

The 'acquaintance-based' anchor to the environment is also part of what grounds my sense of familiarity with the type of experience that I am currently undergoing. For even when there is some ambiguity in *what* is present before me (e.g., whether this thing before me is a real voluminous apple or an apple drawing), I am usually certain about *how* I am experiencing it and able to tell that I am 'seeing' something external to myself. This basic confidence that I am really *perceiving* something (and thus not merely imagining, dreaming, or remembering it) is grounded on the fact that I am anchored to the 'mind-independent' world by virtue of being acquainted to some parts of it. In this way, the notion of p-acquaintance serves a legitimate explanatory role in accounting for the sense in which some aspects of the mind-independent world are perceptually present in experience. This clarifies the right kind of externalism that advocates of sensorimotor theory should welcome and embrace.

Furthermore, sensorimotor naïve realism suggests that the presence of perspectival parts of objects and the presence of non-perspectival parts of objects differ not only in *degree* but *kind* (*contra* Noë). For, on this view, the presence of the apple's facing side is 'acquaintance-based' whereas the presence of the unseen rear side is 'anticipation-based'. Dividing the labour in this way best accommodates the dual sense of perceptual presence.

The sensorimotor theorist might respond that there is an alternative way of explaining the relevant kind of phenomenological difference between the apple's facing side and that of the rear side, in terms of some actual (and mastered) difference in my sensorimotor relations with them given that an immediate change in the apple's facing surface can immediately grab my attention. However, this response, roughly in the style of Noë, might be taken to overestimate the contribution of enactive factors to perception (e.g., attentional control). Although the fact that I can skilfully direct attention to this or that feature of the apple's facing surface is an important factor to my perceptual experience of such a change, this should not exclude consideration of environmental factors in accounting for perceptual phenomenology. The relevant experience is shaped by that very 'attention-grabbing' change in the environment (that I am acquainted with) as much as it is by my sensorimotor skills. The reason why I notice such a change is not simply a matter of my ability to choose what to attend to and what to ignore, but also a matter of how I am *passively* and *involuntarily* 'affected' by the environment. Given the emphasis placed on the 'active' aspects of

perception, sensorimotor theory often underestimates or underdescribes the 'passive' or 'receptive' aspects of perception. The appeal to p-acquaintance is meant to remedy this by picking out or individuating *what* exactly (in the environment) is affecting me and grabbing my attention. On sensorimotor naïve realism, the presence of the apple's facing side is 'passively' and sensorially given (via p-acquaintance), whereas the presence of the rear side is 'actively' given (via sensorimotor anticipations). Such is the dual structure of perceptual presence.

Crucially, the point here is not simply to 'ground' sensorimotor relations in acquaintance relationships. Rather, on my suggested picture, acquaintance and sensorimotor anticipations amount to two different complementary aspects of the structure of perception that are phenomenologically basic, meaning that neither of them has a metaphysical or explanatory primacy over the other. They have an *interdependence* status in that neither of them by itself suffices to give rise to a conscious perceptual experience; both are necessary. This way of characterizing the nature of the relationship between 'acquaintance' and 'sensorimotor anticipations' is notably different from other attempts to combine sensorimotor theory with a form of direct realism or relationalism (Beaton, 2016; Ward, 2022). For, on those accounts, acquaintance and sensorimotor anticipations are construed as two different complementary ways of describing the very same aspect of perceptual experience– e.g., "sensorimotor acquaintance" (Ward, 2022, p. 19). On the version of sensorimotor naïve realism argued for here, by contrast, both acquaintance and anticipations amount to essential, 'structural' features of perceptual experience that are not reducible to the other, and serve distinct explanatory roles in accounting for the overall phenomenology of our experience of objects.

The point of the non-priority claim is this. On the one hand, giving primacy to acquaintance over sensorimotor anticipations would make it difficult to retain the sense in which sensorimotor anticipations are genuinely 'perceptual' (rather than, say, some 'post-perceptual' belief or thought). On the other hand, prioritizing sensorimotor anticipations over acquaintance would not have any advantages over the original sensorimotor theory by itself. Analyzing the nature of acquaintance relationships in terms of sensorimotor relations in some reductive sense would make it sound like the former is dispensable, making the suggested view susceptible to the same charges of phenomenalism and indirect realism. On sensorimotor naïve realism, perceptual presence is a matter of obtaining a 'touch-like' *acquaintance* relation with what is currently in view, whilst *anticipating* what is currently out of view. This better captures the dual sense of perceptual presence (than appealing to mere virtual accessibility), whilst securing the direct realist credentials of sensorimotor theory.

4.3 Reciprocity

There are grounds for thinking that naïve realism and sensorimotor theory are not only compatible with each other but are *mutually supportive* (Beaton, 2016; Ward, 2022). The combination can help naïve realism in a number of ways. First, it offers a highly plausible account of the 'dual' sense of perceptual presence within a broadly naïve realist framework. In particular, the appeal to the notion of sensorimotor anticipation provides the much-needed resources to account for the sensed presence of the

non-perspectival parts of perceived objects in terms of my non-inferential 'access' to them by virtue of sensorimotor anticipations. The combination of 'acquaintance-based' anchor and 'anticipation-based' access best captures the sense in which the relevant objects (and their parts) are experienced as *perceptually* present, without invoking any additional representational state 'over and above' perception itself (e.g., belief, mental imagery).[19]

Second, the combined view has resources to account for phenomenological variation without variation in the object relatum. On sensorimotor naïve realism, the phenomenological difference between seeing an apple drawing as a voluminous apple (*before* realizing that it is a mere drawing) and seeing it as a flat depiction (*after* realizing it) can be accounted for in terms of difference in the relevant sets of sensorimotor skills to be deployed when interacting with a real three-dimensional apple and those involved in interacting with a flat-surfaced, apple façade. Although I would be p-acquainted with the same perspectival look in both cases (i.e., the facing side of the apple drawing seen from the same vantage point), my anticipations about the relevant experience's unfolding would be very different. Once realized, I wouldn't expect to interact with something like a real voluminous apple even if it *looks* like one from where I stand. The appeal to sensorimotor anticipations allows the naïve realist to say more about some 'non-object-involving' factors to perceptual phenomenology.[20]

Third, since naïve realism is generally presented as a purely philosophical theory that reflects our commonsense conception of perception, it is sometimes claimed to be at odds with the sciences of consciousness (Burge, 2005). Combination with sensorimotor theory provides a way to situate naïve realism within the general enactivist scientific framework, offering resources to explain why some perceptual events become 'conscious' at all whilst others remain 'unconscious' in a scientifically tractable way (Beaton, 2016). O'Regan (2011), for instance, claims that conscious perceptual processes are to be distinguished from other kinds of conscious and non-conscious processes insofar as they involve 'bodiliness' (the fact that sensory inputs change as a result of bodily movement), 'insubordinateness' (the fact that those sensory changes are partly determined by the surrounding environment), 'grabbiness' (the fact that sudden changes in sensory input 'grab' one's attention), and 'richness' (the fact that the environmental details are much richer than what our thought or language can contain or express).

Fourth, sensorimotor naïve realism is well-equipped to distinguish perceptual experiences from other non-veridical episodes (e.g., illusions, hallucinations). In the case of seeing an apple depiction, for example, there is a sense that the whole apple phenomenology (*before* realizing that the thing before me is not a real voluminous apple) is 'illusory'. On my suggested picture, the illusory character of the experi-

[19] There remains a question about whether there are sufficient grounds for thinking that the suggested combination is explanatorily superior to other hybrid accounts of perceptual presence that appeal to some representational state (e.g., belief, mental imagery). This is a topic that deserves further investigation. Still, the point here is that there is a highly attractive way of accounting for perceptual presence without running the risk of over-intellectualizing perception itself. This aligns better with the anti-intellectualist spirit of naïve realism.

[20] I remain neutral on whether this should be cashed out in terms of the contribution of the oft-neglected 'subject relatum' or that of a 'third relatum'.

ence can be explained in terms of the fact that a subject may correctly perceive some perspective-dependent properties of the object (e.g., apparent shape, colour, size) by virtue of obtaining p-acquaintance, whilst being misled to deploy the wrong suite of sensorimotor anticipations about how those apparent properties would vary depending on movements (Roberts, 2012).

When accounting for hallucination, Noë (2005, § 8–10) appeals to sensorimotor considerations (e.g., triggering of the very same sensorimotor skills as in the veridical case). He seeks to defend a form of disjunctivism based on his sensorimotor theory of perception, claiming that a hallucinatory experience may be 'subjectively indistinguishable' from a veridical one insofar as it is *as if* they share the same phenomenal character without entailing their phenomenal sameness. However, given his emphasis on the sensorimotor factors to perception, it is unclear what is meant to serve the relevant explanatory role in the case of hallucination, where there is no genuine sensorimotor coupling between the subject and the environment (the object). As it stands, Noë's account fails to individuate a psychological event that is subjectively indistinguishable from a genuine perceptual experience without sharing the phenomenal character. Sensorimotor naïve realism, by contrast, has resources to offer a more fine-grained account of the phenomenology of hallucination (than Noë's). On an alternative version of sensorimotor disjunctivism, veridical perception and hallucination may be indistinguishable insofar as they have some sensorimotor commonalities (e.g., bodily movement), whilst their phenomenal difference is captured by appeal to the explanatory role of the notion of p-acquaintance. That is to say, perception and hallucination do not share the same phenomenal character insofar as the p-acquaintance relation only obtains in the veridical case and the subject of hallucination is not 'anchored' to the reality in the same manner. In this view, the phenomenology of hallucination is explained in terms of 'anticipations' *without an 'acquaintance-based' anchor to the environment*.[21]

The alliance can also help sensorimotor theory in various ways. First, combination with naïve realism provides relevant resources to come to terms with direct realism. The issue was that the sensorimotor theorist's emphasis on the explanatory priority of appearances over objects themselves is susceptible to the charges of phenomenalism and indirect realism. Combination with naïve realism– in particular, the notion of 'p-acquaintance'– offers a way to better accommodate the sense in which we seem to have a 'touch-like' contact with some perspectivally given aspects of the mind-independent world, not just some mind-dependent intermediaries. This secures the direct realist credentials of sensorimotor theory.

Second, sensorimotor naïve realism is well-placed to explain the 'particularity' of perceptual experience. Sensorimotor anticipations concern how things 'generally' appear, and appearances are general properties which can be shared by different objects. P-acquaintance, by contrast, can pick out 'particular' aspects of the environment. On the combined view, the particular sensory aspects of perceptual phenom-

[21] Defending this alternative version of sensorimotor disjunctivism is beyond the scope of the present paper. My aim in this paper has been to show that there is a particularly attractive way of accounting for the dual sense of perceptual presence by integrating the notions of acquaintance and sensorimotor anticipations without reducing one to another. The point is that this richer conception of perceptual phenomenology, in turn, provides grounds for a richer conception of the phenomenology of hallucination.

enology are identified with the particular sensible aspects of the environment that one is acquainted with.

Third, combination with naïve realism allows the sensorimotor theorist to better accommodate the sense in which our perceptual experiences of objects can become more determinate as they unfold. I argued that mere virtual accessibility alone cannot capture the dynamic ways in which the non-perspectival, indeterminate aspects of the environment can gain determination over time. On sensorimotor naïve realism, the obtaining of p-acquaintance amounts to a necessary condition for the dynamic fulfilment of sensorimotor anticipations. This serves an important explanatory role in capturing the phenomenological significance of the fulfilment in perception that is in some important sense distinct from the significance of sensorimotor anticipations. My anticipations about how experiences would unfold may or may not be fulfilled, depending on some 'actual' movements and correspondingly the obtaining of p-acquaintance.

As I walk around the apple on my desk, I may gradually realize that it is half-eaten and thus its rear side is not as anticipated. In this case, what accounts for the phenomenology is the fact that there is a mismatch between my prior expectations about the apple's backside and my current p-acquaintance with it, which yields some form of 'resolution' (e.g., surprise, disappointment). Or, there may never obtain any p-acquaintance between me and the apple's backside and my anticipations about how my experience would unfold remain unfulfilled. In this case, there may arise some 'irresolute' feelings (e.g., strangeness, doubt, suspicion) which are at least partly grounded in the *non-obtaining* of p-acquaintance. In cases of non-fulfilment, the subject is not as tightly anchored to her environment as in cases of acquaintance-based fulfilment.

This way of preserving the explanatory value of the notion of 'acquaintance' helps the sensorimotor theorist to do full justice to the 'object-dependent' nature of perception where the distinctive sensory aspects of perceptual phenomenology are accounted for in terms of those aspects of the environment that the subject is acquainted with. On my construal, perceptual presence (and perceptual phenomenology more generally) involves a dynamic interplay between our 'anticipations' about some non-perspectival aspects of the environment and their fulfilment by virtue of obtaining 'acquaintance' with some perspectival aspects.

5 Conclusion

I have claimed that the combination of naïve realism and sensorimotor theory yields a novel solution to the problem of perceptual presence. Having shown that none of the basic strategies provides an adequate explanation of the dual sense of perceptual presence, I argued that the suggested alliance has resources to do full justice to the sense in which we experience mind-independent objects both partially and entirely.

On sensorimotor naïve realism, perceptual presence is accounted for in terms of direct acquaintance with some aspects of the environment that are in view and sensorimotor anticipation of how some aspects of the environment that are currently out of view would be revealed through movements and actions. Crucially, in this

view, acquaintance and anticipation are construed as two distinct features of experience that are incorporated within the dynamic, anticipation-fulfilment structure of perception itself. I provided reasons to think that the phenomenological significance of p-acquaintance is distinct from that of sensorimotor anticipations insofar as it accounts for our experience of perspectival aspects of the mind-independent reality and the sense of familiarity with the type of experience one undergoes (e.g., the sense of 'perceiving' something *external* to oneself, and thus not 'imagining' or 'remembering' it).

The suggested alliance is mutually beneficial as it provides resources to better account for perceptual phenomenology. On the one hand, combination with sensorimotor theory enables the naïve realist to better delineate the sense in which one is perceptually related to some aspects of the environment that are not currently in view (e.g., the apple's rear side), without running the risk of over-intellectualizing perception itself by appealing to some representational state (e.g., belief, mental imagery). On the other hand, combination with naïve realism clarifies the right kind of externalism that the sensorimotor theorist should embrace in order to secure the direct realist credentials of sensorimotor theory.

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References

Allen, K. (2009). Being coloured and looking coloured. *Canadian Journal of Philosophy*, *39*(4), 647–670.
Allen, K. (2016). *A naive realist theory of colour*. Oxford University Press.
Allen, K. (2019). Merleau-Ponty and naive realism. *Philosophers' Imprint*, *19*, 1–25.
Bayne, T., & Montague, M. (Eds.). (2011). *Cognitive phenomenology*. Oxford University Press.
Beaton, M. (2016). Sensorimotor direct realism: How we enact our world. *Constructivist Foundations*, *11*(2), 265–276.

Berkeley, G. (1710/2009). A treatise concerning the principles of human knowledge. In: D. M. Clarke, ed. *George Berkeley: Philosophical writings* (pp. 67–149). Cambridge University Press.
Brewer, B. (2000). *Perception and reason*. Oxford University Press.
Brewer, B. (2011). *Perception and its objects*. Oxford University Press.
Briscoe, R. (2011). Mental imagery and the varieties of amodal perception. *Pacific Philosophical Quarterly*, *92*, 153–173.
Burge, T. (2005). Disjunctivism and perceptual psychology. *Philosophical Topics*, *33*, 1–78.
Campbell, J. (2002). *Reference and consciousness*. Oxford University Press.
Campbell, J. (2008). Sensorimotor knowledge and naive realism. *Philosophy and Phenomenological Research*, *76*(3), 666–673.
Campbell, J. (2009). Consciousness and reference. In A. Beckermann, & S. Walter (Eds.), *Oxford handbook of philosophy of mind* (pp. 648–662). Oxford University Press.
Cavedon-Taylor, D. (2011). Perceptual content and sensorimotor expectations. *The Philosophical Quarterly*, *61*(243), 383–391.
Cavedon-Taylor, D. (2018). Naive realism and the cognitive penetrability of perception. *Analytic Philosophy*, *59*(3), 391–412.
Evans, G. (1982). *The varieties of reference*. Oxford University Press.
French, C. (2018). Naive realism and diaphaneity. *Proceedings of the Aristotelian Society*, *118*(2), 149–175.
French, C., & Phillips, I. (2020). Austerity and illusion. *Philosophers' Imprint*, *20*(15), 1–19.
French, C., & Phillips, I. (2023). Naive realism, the slightest philosophy, and the slightest science. In J. Cohen, & B. McLaughlin (Eds.), *Contemporary debates in the philosophy of mind* (2nd ed., pp. 363–383). Blackwell.
Genone, J. (2016). Recent works on naive realism. *American Philosophical Quarterly*, *53*(1), 1–25.
Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton Mifflin.
Gregory, D. (2016). Imagination and mental imagery. In A. Kind (Ed.), *Routledge handbook of philosophy of imagination* (pp. 97–110). Routledge.
Helmholtz, H. (1867/2005). *Treatise on physiological optics: Volume III.* In J. Southall (Ed.). Dover Publications Inc.
Horgan, T., & Tienson, J. (2002). The intentionality of phenomenology and the phenomenology of intentionality. In D. Chalmers (Ed.), *Philosophy of mind: Classical and contemporary readings* (pp. 520–533). Oxford University Press.
Hurley, S. L. (1998). *Consciousness in action*. Harvard University Press.
Husserl, E. (1900/2001). *Logical investigations vol. 2.* London: Routledge.
Husserl, E. (1907/2010). *Thing and space: Lectures of 1907.* Dordrecht: Kluwer.
Husserl, E. (1913/2012). *Ideas: General introduction to pure phenomenology*. Routledge.
Husserl, E. (1931/1960). *Cartesian meditations: An introduction to phenomenology.* The Hague: Martinus Nijhoff Publishers.
Kant, I. (1781/1998). *Critique of pure reason*. Cambridge: Cambridge University Press.
Kelly, S. D. (2004). Seeing things in Merleau-Ponty. In T. Carman (Ed.), *The Cambridge companion to Merleau-Ponty* (pp. 74–110). Cambridge University Press.
Kim, D. S. H. (2022). Naïve realism and minimal self. *Phenomenology and Mind*, *22*, 150–159.
Kind, A. (2018). Imaginative presence. In F. Macpherson, & F. Dorsch (Eds.), *Phenomenal presence*. Oxford University Press.
Kukla, Q. R. (2022). Knowing things and going places. *European Journal of Philosophy*, *31*(1), 266–282.
Langland-Hassan, P. (2015). Imaginative attitudes. *Philosophy and Phenomenological Research*, *90*(3), 664–686.
Leddington, J. (2009). Perceptual presence. *Pacific Philosophical Quarterly*, *90*(4), 482–502.
Locke, J. (1689/1975). *An essay concerning human understanding*. Oxford: Oxford University Press.
Logue, H. (2012). Why naive realism? *Proceedings of the Aristotelian Society*, *112*(2), 211–237.
Logue, H. (2014). Experiential content and naïve realism: A reconciliation. In B. Brogaard (Ed.), *Does perception have content?* (pp. 220–241). Oxford University Press.
Marr, D. (1982). *Vision: A computational investigation into the human representation and processing of visual information*. W.H. Freeman and Company.
Martin, M. G. F. (2002). The transparency of experience. *Mind and Language*, *17*(4), 376–425.
Martin, M. G. F. (2004). The limits of self-awareness. *Philosophical Studies*, *120*, 37–89.
Martin, M. G. F. (2008). Commentary on action in perception. *Philosophy and Phenomenological Research*, *76*(3), 674–681.

Matherne, S. (2017). Merleau-Ponty on style as the key to perceptual presence and constancy. *Journal of the History of Philosophy*, *55*(4), 693–727.
McDowell, J. (1994). *Mind and world*. Harvard University Press.
Merleau-Ponty, M. (1945/2012). *Phenomenology of perception*. Routledge.
Nanay, B. (2010). Perception and imagination: Amodal perception as mental imagery. *Philosophical Studies*, *150*(2), 239–254.
Noë, A. (2004). *Action in perception*. MIT Press.
Noë, A. (2005). Real presence. *Philosophical Topics*, *33*(1), 235–264.
Noë, A. (2006). Experience without the head. In T. S. Gendler, & J. Hawthrone (Eds.), *Perceptual experience* (pp. 411–433). Oxford University Press.
Noë, A. (2008). Reply to Campbell, Martin, and Kelly. *Philosophy and Phenomenological Research*, *76*(3), 691–706.
O'Regan, J. K. (2011). *Why red doesn't sound like a bell: Understanding the feel of consciousness*. Oxford University Press.
O'Regan, J. K., & Noë, A. (2001). A sensorimotor account of vision and visual consciousness. *Behavioral and Brain Sciences*, *24*(5), 883–917.
Peacocke, C. (1992). *A study of concepts*. MIT Press.
Roberts, T. (2012). Exploring enactive realism. *International Journal of Philosophical Studies*, *20*(2), 239–254.
Russell, B. (1910). Knowledge by acquaintance and knowledge by description. *Proceedings of the Aristotelian Society*, *11*(5), 108–128.
Ryle, G. (1949). *The concept of mind*. University of Chicago Press.
Siegel, S. (2010). *The contents of visual experience*. Oxford University Press.
Soteriou, M. (2013). *The mind's construction*. Oxford University Press.
Strawson, P. F. (1970). Imagination and perception. In L. Foster, & J. W. Swanson (Eds.), *Experience and theory* (pp. 31–54). University of Massachusetts Press.
Travis, C. (2004). The silence of the senses. *Mind*, *113*(449), 57–94.
Walton, K. (1990). *Mimesis as make-believe*. Harvard University Press.
Ward, D. (2022). Sensorimotor relationalism and consciousvision. *The Philosophical Quarterly*, *73*(1), 258–281.