

FAMILIAR PROPERTIES AND PHENOMENAL PROPERTIES

Thomas Raleigh, University of Luxembourg, thomas.raleigh@uni.lu

(1) INTRODUCTION: TWO QUESTIONS

When describing our conscious experiences, very often we simply describe the external objects and features that we are conscious of. But even on those occasions (supposing there are any) where we are concerned to speak of the subjective phenomenal character of experience *itself*, it can still be very natural to use some of the same predicates we use to characterise familiar external physical objects. For example: a subject who is enjoying a detailed visual hallucination – and who knows perfectly well that she is hallucinating – might describe some hallucinatory element in, or aspect of, her subjective visual field as ‘hexagonal’, ‘blue’, ‘growing in size’, ‘rotating clockwise’, ‘to the left of’ some other element, etc. How literally should we understand such descriptions? Can there be phenomenal features or elements to an experience which are quite literally square or blue or rotating clockwise? Or are these terms such as ‘square’, ‘blue’, ‘rotating’, being used here to do something other than literally predicate square-ness, blue-ness, rotation? There are two sorts of issues here, metaphysical and semantic. As a rough first pass, we can put the two questions as follows¹:

- **METAPHYSICAL QUESTION:** Can phenomenal elements/features of/in experience, possess – or simply be – any of the familiar properties that external physical items can possess?
- **SEMANTIC QUESTION:** Do our predicates have the same meaning when we use them to describe phenomenal elements/features of/in experience, as when we use them to describe external physical items?

I have used the rather cumbersome and ugly phrase ‘elements/features of/in experience’ so as to remain maximally neutral concerning the metaphysical structure of experience. I don't want the phrasing of these questions to take any stance on whether experience has, say, an act-object structure or whether it involves anything like acquaintance with inner, mental particulars, etc. I assume only that our streams of consciousness at least have various different aspects or components that we can selectively attend to and think about and attempt to describe – e.g. this region of my visual field as opposed to that region, this after-image rather than that after-image, the apparent shape of what I visually experience as opposed to its apparent movement, etc.

These questions seem manifestly important for understanding the relationship between our subjective conscious experiences and (what we generally take to be) the shared physical reality we all inhabit. But they are also important for understanding what exactly we are doing when we describe the phenomenal character of our experiences – and how we *should* describe this phenomenal character. And yet they have tended not to receive much explicit

¹ I am very grateful to an anonymous referee for this journal whose helpful comments improved the formulations of these questions.

discussion in recent philosophy of mind². The general plan for this paper will be to consider various reasons in favour of answering either “YES” or “NO” to these questions. The focus will primarily be on the Metaphysical Question, though the Semantic Question will also be considered. As will be discussed in section (3), below, many familiar positions and theses about conscious experience can straightforwardly commit one to answering ‘YES’ or to answering ‘NO’ to the Metaphysical Question. But what I am really interested in is whether there are any *independent* reasons to answer ‘YES’ or ‘NO’ to the Metaphysical Question – that is, general philosophical or phenomenological reasons that don’t depend on already making specific, substantive assumptions about the metaphysics of conscious experience. In section (4) I will consider some broadly phenomenological reasons in favour of answering ‘YES’. In section (5) I will consider some phenomenological reasons that might be adduced in favour of answering ‘NO’. This will lead us on to considering, in section (6) a much more general philosophical idea, concerning the nature of empirical properties, which might also be used to support a ‘NO’ answer to the Metaphysical Question. Section (7) provides a brief summary and conclusion. But the first order of business will be to briefly clarify our two questions...

(2) CLARIFYING THE QUESTIONS

A first, perhaps rather obvious thing to point out is that one might give different answers to each question given the possibility of some kind of *error theory*. That is: you might answer ‘NO’ to the metaphysical question but ‘YES’ to the semantic question, if you thought that people generally *ascribe* the same properties to sensations as to physical items, but that one or other of these kinds of ascriptions (or even both) are systematically false³. E.g. maybe we all go around ascribing spatial properties to, say, after-images but we are just wrong to do so – either because after images are not literally spatial or because there simply are no such things as after-images in the first place. Or perhaps we all go around ‘projecting’ colour properties of our sensations onto physical surfaces that systematically lack these properties. And of course it is at least a logical option to answer ‘YES’ to the metaphysical question and ‘NO’ to the semantic question – though it is harder to imagine what the motivation for this combination of answers could be.

The Metaphysical Question, as formulated above, speaks of ‘the familiar properties that external physical items can possess’. But so what, you might well ask, counts as a *familiar* property? Let me briefly say a little more then about which properties I intend the Metaphysical Question to be concerned with. Clearly we want to rule out various kinds of properties that both sensations and familiar physical objects can *trivially* share such as: being self-identical, or: being non-identical with Caesar. Likewise negative properties – since whether or not sensations can possess spatial properties at all, a sensation and a table-top could both be *non*-hexagonal. Also disjunctive properties – for clearly both a sensation and a table-top could possess a disjunctive property such as: being either hexagonal or painful. And

² I also discuss these questions in Raleigh (2019), but with the focus squarely on their relevance to Wittgenstein’s ‘private language argument’.

³ For example, Chalmers (2006) argues that our perceptual experiences represent ‘Edenic’ shape and colour properties that are not in fact instantiated anywhere in the world. Or you might think that our best scientific theories about the nature of physical matter show that the familiar physical objects in our environment are in fact scattered clouds of micro-particles, which do not instantiate any familiar shape or colour properties.

then there are merely extrinsic or ‘Cambridge’ properties – for example: both a sensation and a table-top can obviously possess a property such as: *having been talked about by Alice*, or: *being disliked by Beth*, etc.

So, by talking of the ‘familiar properties’ of physical items I mean to restrict the Metaphysical Question to genuine, non-trivial, non-gerrymandered qualities of ordinary physical objects. For convenience and simplicity, I will mostly stick to talking about spatial properties, though I will also sometimes discuss colour properties. There is, of course, a venerable philosophical tradition, going back at least to Locke, which holds that whilst both sensations and physical objects can share *primary qualities* – such as extension, motion, shape and number – when it comes to *secondary qualities* – such as colour, heat, taste and so on – the phenomenal properties of our experience are entirely different from whatever external features normally cause such experiences. Such a view would qualify as giving a clear ‘YES’ answer to the Metaphysical Question since it allows that some familiar properties of physical objects – the primary qualities, such as spatial properties – can also be instantiated by sensations (ideas) in the conscious mind. In section 4, below, we will consider some motivations for treating attributions of spatial properties to experience (or to phenomenal features of/in experience) as literally correct.

Of course, there is a common usage of the term ‘space’ to describe some domain or subject matter that has various dimensions of variation – e.g. colour space (hue, saturation, brightness) – where there is no commitment to any real, concrete instances of spatial properties or relations. When somebody says that ‘orange is closer to red than to green in colour space’, all that is meant is that relations of colour-similarity can be usefully modelled or pictured in terms of an abstract space with 3-dimensions (or more these days). Likewise, I take it, for talk of ‘logical space’, ‘modal space’, ‘the space of reasons’, etc. Whereas, in asking the metaphysical question, we are concerned with whether a conscious experience, or perhaps phenomenal features or elements of experience, can exhibit *actual/concrete* instances of spatial properties. For example, one variety of sense-data theorist would presumably hold that there is some kind of private phenomenal domain in which sense-data really do exist and really do stand in *actual concrete* spatial relations, even though they are supposed to be non-physical and this domain is not supposed to be located anywhere in physical space.

It is worth noting then that mathematical definitions of a space cannot settle the issue of whether to construe a spatial attribution in a realistic fashion – i.e. as picking out an actual/concrete spatial phenomenon. There is no precise mathematical definition of a space in general – rather there are many different kinds of mathematical spaces. Familiar, 3-dimensional Euclidean space, as well as non-Euclidean spaces, such as spherical and hyperbolic spaces, are all *metric spaces*. So they can all be thought of as a set of points with a metric on the set that defines *distance* between any two points. But this mathematical notion of a metric space permits us to take any arbitrary set of objects as the ‘points’ and define some arbitrary ‘distances’ between them, so long as this distance metric satisfies a few basic axioms (the distance from X to Y = Y to X, the distance from a point to itself = 0, etc.) For example, consider the set: {Boris Johnson, π }. We could provide the following metric on that set: $d(\text{Boris Johnson}, \text{Boris Johnson}) = d(\pi, \pi) = 0$; $d(\text{Boris Johnson}, \pi) = d(\pi, \text{Boris Johnson}) = 1$. Voila, we have a metric space – but of course we do not thereby have any reason to think that there is some kind of genuine, concrete spatial relationship between Boris Johnson and the number π .

On the other hand, the wide variety of different mathematical notions of a space is important to bear in mind when evaluating whether/how to interpret talk of a ‘subjective visual field’, or a ‘field of awareness’, or of ‘phenomenal space’ in a thoroughly realist way – i.e. as picking out an actual/concrete spatial phenomenon that is somehow ‘generated’ or ‘realized’ by the brain. As well as metric spaces, there are also affine spaces and projective spaces, for which measurements of distance and angle don’t apply⁴. This opens up the possibility that some phenomenal features/elements of experience could share some kinds of spatial properties with everyday physical objects, *even if* there are no facts about specific distances or angles in the phenomenal realm. For example: according to the ‘Projective Consciousness Model’, recently developed by Kenneth Williford, Karl Friston, David Rudrauf, Gregory Landini and others⁵ phenomenal visual space is a *projective 3-space*. If we interpret this in realist fashion⁶, as making a claim about an actual/genuine instance of a space – as opposed to merely describing our visual appearances, or the representational content of our experience – then elements or sub-regions of the subjective visual field could share various spatial and topological properties with concrete everyday objects, even though measures of lengths and angles within this visual field are undefined. So, for example, regions in phenomenal visual space could count as being literally quadrilateral even though there could not literally be any squares or rectangles or parallelograms, etc.

Concerning the Semantic Question: ideally, it would be nice to further clarify this question by providing a neat criterion for deciding when two token uses of a term do or don’t have the same meaning. Alas, what it is exactly for two items to have the same meaning is a large, difficult and contentious topic. Moreover, sameness of meaning can very plausibly come in degrees – token words (or usages of words) can overlap in meaning without being exactly synonymous, the usage of an old term can become extended to apply in a new domain. What was once a ‘live’ metaphorical use of a term can become a ‘dead’ metaphor and so become part of the term’s conventional meaning. Etc. So I will just have to proceed, hoping that we have a good enough, rough and ready grip on whether two terms are being used with the same literal meaning.

It is also worth noting here that a non-literal usage does not necessarily require a radically new or metaphorical meaning for the term in question; it could just be a *shorthand* usage. For example: I might say of someone that they are sporting a very ‘republican moustache’. Obviously I am not attributing political views to the moustache itself. But nor am I using the word ‘republican’ with some radically new meaning. Rather, this is a kind of shorthand – what I mean is that this is the kind of moustache that would typically be worn by people with Republican views. And this very plausibly seems to be what is going in with at least *some* descriptions of sensations. For example: if I talk of experiencing a ‘burnt taste’ or a ‘rotten smell’ I am clearly not suggesting that the sensation has itself undergone combustion or decomposition. Rather this is a kind of shorthand way of saying that I am experiencing the kind of taste sensation that is typically produced by eating burnt food, or the kind of smell

⁴ And then there are the even more abstract/generalized notions of topological spaces and algebraic spaces.

⁵ See Williford, Rudrauf & Landini 2012, Williford, Friston et al 2018, Rudrauf et al 2017.

⁶ As seems to be the intended interpretation, at least in Williford, Rudrauf & Landini 2012 and Williford, Friston et al 2018.

sensation that is typically produced by something rotten. The terms ‘burnt’ and ‘rotten’ are still being used to speak of the familiar properties of being burnt or being rotten, but they are not being used to *attribute* these familiar properties to the sensations themselves⁷. And so one possible position would be to hold that this is also what is going on when a knowingly hallucinating subject talks of a ‘square visual sensation’ or a ‘hexagonal element in my visual field’. A *locus classicus* for this kind of view is J. J. C. Smart’s “Sensations and Brain Processes”:

“When a person says, "I see a yellowish-orange after-image," he is saying something like this: "*There is something going on which is like what is going on when I have my eyes open, am awake, and there is an orange illuminated in good light in front of me, that is, when I really see an orange.*" (Smart, 1959 149; italics original)

Similar sentiments, though now employing the notion of mental representation, are expressed by Block (1983) and Tye (1995):

“...it is no surprise that we describe the mental image as orange even though, strictly speaking, it is not. For it is easy to slip into ascribing to representations the properties of what they represent. People who routinely work with graphical representations of sounds (e.g. oscilloscope readings) often speak of them as if they had the properties of the sounds they represent – for example, being loud or high pitched.” (Block, 1983, 516-7)

“It may still be wondered why we *say* that the image itself is *F* and *G*, for example, blue and square. This is, I suggest, part of a much broader usage. Frequently, when we talk of representations, both mental and nonmental, within science and in ordinary life, we save breath by speaking as if the representations themselves have the properties of the things they represent. In such cases, in saying of a representation that it is *F*, what we mean is that it represents that something is *F*. So, when it is said of some given oscilloscope reading that it is loud and high-pitched, what is being claimed is that the reading represents some sound as being loud and high-pitched. 'Loud' and 'high-pitched' mean what they normally do here.” (Tye, 1995, 107-8)

However, Eric Lormand makes the following objection:

“While we are not genuinely tempted to think that a painting is literally nude or literally a tree, we are normally very tempted to think that mental images are literally colored and literally shaped... We say that banana images *look* yellow and curved. By contrast we don’t normally say that a “nude” painting looks nude or that a “loud” oscilloscope reading sounds loud. Another indication that this explanation is too weak is that... we don’t speak as if our beliefs *that bananas are curved and yellow* are themselves curved

⁷ Thus, strictly speaking, such shorthand usage is still a change in meaning from the original literal meaning of the word, though the new meaning is still very closely and systematically related to the original. Compare Aristotle’s discussion in *Metaphysics* Γ 2 of how we call a food ‘healthy’ when it tends to produce health in the core, literal sense of bodily health and we call someone’s complexion ‘healthy’ when it is an indicator of bodily health. Thanks to an anonymous referee for helpful discussion.

or yellow, nor do we talk this way about our desires *to eat curved yellow bananas*. Yet this is what we should expect on the “loose talk view”. ... It is more plausible to suppose that in speaking of colored and shaped mental images people are trying to express their imaginative experiences... sincerely strictly, and literally.” (Lormand, 2006, 318-9)

I agree with Lormand that it is implausible that *all* sincere descriptions of experience that seem to be literally attributing properties like shape and colour can be explained away as shorthand usages or loose talk. Whether or not there really are inner, phenomenal elements/features that are literally shaped or coloured, it is at least natural for people to sometimes assert that there are such things when they describe their own experiences.

3. ANSWERS FROM STANDARD POSITIONS

As I mentioned in the introduction: our two questions have only rarely been the central focus of attention in recent analytic philosophy of mind⁸ – rather, they have mostly been answered implicitly or in passing, whilst discussing various other theories and theses about conscious experience. This tends to illustrate the fact that: *if you already have some theory* as to the metaphysical nature/structure of conscious experience, you will often be straightforwardly committed to answering the Metaphysical Question one way or the other. In this section then I will briefly indicate how various standard positions in philosophy of mind will yield responses to the Metaphysical Question.

PHENOMENAL EXTERNALISM: If one endorses a variety of phenomenal externalism according to which the phenomenal properties of experience are, at least sometimes, (partially) constituted by external physical objects and their features then one will be straightforwardly committed to answering ‘YES’ to the Metaphysical Question – since some of the familiar properties of external objects (such as shape and colour) are supposed to constitutively figure as phenomenal features in experience⁹. This sort of view is most obviously associated with Naïve-Realism¹⁰ (or ‘Relationalism’). However there are also at least some representational theorists who accept this kind of phenomenal externalism. Perhaps the clearest example is William Lycan (2001, 2019), who explicitly claims that in the case of normal, successful perceptual experiences the phenomenal features of these experiences are simply identical to the properties of the external objects that we are perceiving. Whereas in the case of hallucination, Lycan claims that these familiar properties are instead possessed by ‘non-actual’ – i.e. non-existent – objects. In a recent paper Lycan writes:

⁸ One notable exception is Rosenthal (1999) – see the discussion of Monadic Conscious States, below. Another is Umrao Sethi’s recent work – which is discussed at the end of section 6, below.

⁹ This is perhaps not *totally* straightforward, since there might be a possible position on which even though phenomenal experience is partially constituted by external features with familiar shape and colour properties, the experience itself does not inherit or instantiate any such familiar properties from its constituent parts. After all, wholes do not in general inherit *all* the properties possessed by any of their parts.

¹⁰ However, see Beck (2019) for a version of Naïve Realism which rejects the idea that external features even partially constitute the phenomenal character of experience.

“What I am calling the ‘sensory qualities’ are the introspectible (apparently) monadic qualitative properties distinctively inhering in sensory states, such as: the redness occupying such-and-such a region of your ordinary visual field right now...

Sensory qualities are the sensible properties of things in the world, which things may or may not be real.” (Lycan, 2019, emphasis added)

So, according to Lycan, ‘sensory qualities’ are familiar properties of things in the world that also ‘inhere’ in sensory states, available for us to introspect. However, there is a different, weaker form of representational phenomenal externalism which merely holds that the phenomenal character of experience supervenes on factors outside of the subject’s body – e.g. phenomenal character supervenes on ‘wide’ representational content, where this content is determined by factors outside of the subject’s body. Notice that this weaker form of phenomenal externalism is not yet committed to the idea that phenomenal features in experience are identical with (or are constituted by) familiar external features of the items that we are perceiving. Wide mental content about some familiar external property may require, say, that a mental state has the right kind of causal or teleo-functional history involving the familiar property in question, but this does not require that the phenomenal character of the mental state is (partly) constituted by an instance of the property. It is not always clear, to me at least, whether some avowed representational phenomenal externalists – such as Byrne & Tye (2006), Tye (2009, 2015), Ross (2018) – are endorsing only the weaker thesis, or whether they stand with Lycan in endorsing the stronger version and thus endorse a ‘YES’ answer to the Metaphysical Question – though I think it is at least very natural to interpret Dretske (1996) as endorsing¹¹ the stronger thesis¹².

SENSE-DATA: As a matter of fact, Sense-Data theorists have always answered ‘YES’ to the Metaphysical Question, since they have all maintained that sense-data can literally be square or hexagonal etc. But it would seem to be at least a logical option for a sense-data theorist to hold that such inner/non-physical/non-environmental¹³ particulars do not (or cannot)

¹¹ For example, Dretske writes:

“... the qualities that individuate one experience from another, the qualities that make *seeing* so much different from *hearing*, and seeing *red* so much different from seeing *green*, are (or need be) nowhere in the person wherein resides the experiences of these qualities. The experiences themselves are in the head (why else would closing one’s eyes or stopping one’s ears extinguish them?), but nothing in the head...need have the qualities that distinguish these experiences. How is this possible? How is it possible for experiences to be in the head and, yet, for there to be nothing in the head that has the qualities we use to identify and distinguish between them?... The experiences are in the head, but what makes them the experiences they are – just like what makes beliefs the beliefs they are – is external.” (Dretske, 1996, 144-145)

¹² One might also naturally understand representationalist versions of the ‘Transparency of Experience’ (see below) and representationalist claims to vindicate the idea that we are ‘directly’ conscious of external objects/features along the same lines. For example, it is often said by representational theorists that in the case of normal perceptual experience, in virtue of one’s perceptual state accurately representing some external feature, one is simply or ‘directly’ consciously aware of that external feature and not of any properties of the perceptual experience itself. It can be, at least sometimes, pretty natural to construe such claims in the stronger externalist fashion: as committed to the idea that in attending to specific phenomenal aspects/features of/in experience we really are simply attending to familiar properties, such as shapes and colours, possessed by everyday objects – rather than attending to a phenomenal element/feature that is in fact realised/constituted by mental content *about* such familiar properties.

¹³ Whilst Russell in his logical atomist phase held that Sense-Data were non-physical, he denied that they were ‘in the mind’: “...I hold that the sense-datum is certainly something other than the subject,

instantiate these sort of familiar spatial properties. In what follows, when I write about ‘Sense-Data Theories’ I will assume that these theories are committed to the idea that sense-data really do possess at least some familiar spatial properties.

Both Sense-Data theorists and Naïve-realists accept something like an act-object, or binary structure for experience, involving both an object of conscious awareness and an act or subject of conscious awareness. But many other theorists would want to reject this in favour of a monadic structure.

MONADIC CONSCIOUS STATES: If you have some theory which is committed to denying that experience has a genuinely act-object structure, and is instead just a monadic state of the subject, then you will pretty clearly be committed to answering ‘NO’. For if an experience is a monadic mental state or modification of the subject, without any genuine particular elements that the subject is consciously acquainted with or related to, it could not instantiate first-order properties like being square or hexagonal etc. A state or modification of a subject – whether a mental state or a physical state – is just the *wrong category* of thing to instantiate shape or colour properties. David Rosenthal, who is assuming a monadic-state conception, makes exactly this point when explicitly giving a ‘NO’ answer:

‘The property of physical roundness itself has nothing in common with the property in virtue of which we describe visual experiences as round. But the relations mental roundness bears to other properties of mental shape parallel the relations physical roundness bears to other members of the family of physical shapes.’ (Rosenthal, 1999, 103-4)

‘Mental states plainly cannot have the very same properties of being red and round that physical objects have. Physical objects have color, size and shape by virtue of having physical surfaces and volume. But states of things do not have physical surfaces... And this is independent of whether the states are mental states; not even bodily states are the sorts of things that could have physical color, size and shape.’ (ibid.)

So Adverbial theorists¹⁴, who explicitly rejected the act-object structure of sense-data theories, would thus answer ‘NO’. But notice that what we might call Standard or Orthodox Representational theories will also want to answer ‘NO’ on this basis¹⁵. For a representational mental state, at least as standardly understood, has ‘intentional objects’, but it does not constitutively/essentially involve a relation to any real object – it is just a mental state with a certain representational content. And this state is not itself supposed to instantiate the familiar physical properties that it represents (except by coincidence).

something to which the subject’s relation is just as ‘external’ as to the physical object.’ (Russell, 1913, 78). In contrast, some later Sense-Data theorists have maintained that sense-data *are* located out in the external environment even if they are non-physical or mind-dependent – see e.g. Jackson 1977, Bermudez 2000.

¹⁴ See e.g. Ducasse (1942), Chisholm (1957).

¹⁵ I take the standard, orthodox Representational position to be that perceptual experiences are mental states with a propositional or at least accuracy-evaluable content. This content is supposed to (at least partially) determine/be-determined-by the phenomenal character of the experience.

REDUCTIVE PHYSICALISM: Though it is perhaps somewhat less straightforward than with the previous positions, if one is antecedently committed to some kind of reductive physicalism, or mind-brain identity theory, it seems likely that one will want to answer ‘NO’. For consider: if you think that, say, a hallucinatory conscious experience as of a hexagon is simply *identical* to some process/structure in the brain, then this neural process/structure will very plausibly *not* instantiate the familiar spatial property of hexagonal-ness. Of course, such a neural process/structure will presumably have all sorts of highly complex microphysical spatial properties. But it will not, presumably, instantiate the familiar everyday shape properties – such as hexagonal-ness – that the hallucinating subject invokes when describing her visual phenomenology. However, some caution is needed here, since there *are* retinotopic regions in the visual cortex where the pattern of activation is at least spatially isomorphic to the shape of the visual stimulus. And we might also recall here the fierce debate about mental imagery that went on back in the 1970’s and 1980’s, with theorists on one side¹⁶ insisting that mental images literally have spatial characteristics and must be realised by analog representational vehicles that can be spatially rotated.

On the other hand, if you endorse some version of *non*-reductive, or even emergent, physicalism, then it would seem to be at least an open option to answer YES. For if phenomenal properties are not identical to, nor reduce to, neural properties – even if they may still supervene on the neurological – it seems that, *prima facie* anyway, phenomenal conscious experience might literally instantiate such spatial properties as squareness or hexagonal-ness even though there are no such familiar spatial properties at the neurological level (the supervenience base).

Three other theses, much discussed in recent philosophy of mind, will also immediately bear on answering the Metaphysical Question:

THE ‘PHENOMENAL PRINCIPLE’¹⁷:

“If there sensibly appears to a subject to be something which possesses a particular sensible quality then there is something of which the subject is aware which does possess that sensible quality (Robinson, 1994, 32)

On the assumption that familiar properties such as shape and colour are the kinds of features that can ‘sensibly appear’ to a conscious subject, this Phenomenal Principle will then enshrine a ‘YES’ answer to the Metaphysical Question – though in itself it is neutral as to whether the object of awareness in question is simply part of the familiar external environment or whether it is something like a sense-datum. So if one is, for whatever reason, *already committed* to the Phenomenal Principle, then one should answer ‘YES’ to the Metaphysical Question. Notice that the Phenomenal Principle is *stronger* than a mere ‘YES’ answer, for the Phenomenal Principle requires that *whenever* your experience is such that things appear F (where F is a sensible quality) then there is a particular element in experience that actually instantiates F-ness. Whereas in order to answer ‘YES’ to the Metaphysical

¹⁶ This was the side of the debate led by Steven Kosslyn (1975, 1980, 1994). The opposing side was led Zenon Pylyshyn (1973, 1981, 2002).

¹⁷ The label ‘Phenomenal Principle’ is due to Howard Robinson (1994), though the idea goes back much earlier – see, e.g. the quoted passage from H. H. Price (1932) at the start of section 4, below.

question, all one needs to accept is that *sometimes* there are particular elements in experience that instantiate such a property.

THE TRANSPARENCY OF EXPERIENCE¹⁸: According to a strong version of the ‘Transparency of Experience’, whenever we try to attend to perceptual experience itself *all* that we find are the (apparently) external objects and properties that are represented or presented by the experience. So then there would just be no such thing as noticing and describing phenomenal elements of experience itself, as opposed to the external objects and properties of experience. One might think of this position as answering ‘YES’ to both questions. Or one might think of it as rejecting both questions as ill-posed by denying that we are ever aware of subjective/phenomenal elements in our experience in the first place. For what it’s worth, I think that this especially strong version of the transparency thesis is implausible. A weaker, more plausible version of this idea is that there is no such thing as attending to one’s perceptual experience *without* thereby attending to some (apparently) external object/feature of perception – which leaves open that in addition to thus attending to some (apparently) external feature one might also gain awareness of a phenomenal feature/aspect of the experience itself¹⁹.

THE ‘FREGE-SCHLICK’ THESIS: Another important topic for which our questions are crucially relevant is the so-called ‘Frege-Schlick Thesis’. A number of philosophers have suggested that interpersonal comparisons of phenomenal similarity may not even be well-defined, given that there is no metaphysical possibility of two different subjects ever experiencing each others’ ‘private’ phenomenal features²⁰. But of course, *if* our streams of consciousness *do* literally instantiate familiar properties, like shape or colour, there would be no question that such inter-personal comparisons make perfect sense, even if the token instances of these familiar properties in our streams of consciousness are indeed ‘private’. Thus, an advocate of the Frege-Schlick thesis will need to answer ‘NO’ to the Metaphysical Question.

I hope that this section has illustrated how: *given some antecedent metaphysical commitments* about the nature/structure of experience, it will often then be a fairly simple matter to arrive at either a ‘YES’ or a ‘NO’ answer to the Metaphysical Question (and perhaps also sometimes to the Semantic Question). However, what I really want to discuss is whether there might be any *independent* reasons to answer ‘YES’ or ‘NO’ – e.g. phenomenological reasons, or maybe just general philosophical reasons, which don’t yet assume any substantial theory or thesis specifically about the structure or metaphysics of experience. Now, perhaps there is a never a *totally* neutral starting point from which to begin discussing experience. But there might at least be *relatively theory-neutral* reasons in favour of answering ‘YES’ or

¹⁸ Proponents of some form of ‘transparency’ thesis include: Harman (1990), Tye (2000), Martin (2002), Speaks (2009). The *locus classicus* for discussion of the apparently ‘transparent’, or as he called it ‘diaphanous’, nature of perceptual experience is Moore (1922) – though Moore actually ends up allowing that it is after all possible, via some special act of attention, to attend to experience itself, as opposed to the objects/features it apparently presents, and so ends up denying the transparency/diaphaneity of experience.

¹⁹ See Soteriou 2013 for further discussion of these two different versions of the transparency idea.

²⁰ See, e.g. Frege (1918), Schlick (1948), Wittgenstein (1953), Craig (1982, 1986, 1997), Shoemaker (1981, 1984, 1996, 2006) and Stalnaker (2003, 2006). The label ‘Frege-Schlick’ thesis is due to Shoemaker.

answering ‘NO’. Such relatively theory-neutral reasons could then provide independent support for, or ammunition against, one or more of the standard positions mentioned above²¹.

4. PHENOMENOLOGICAL REASONS TO ANSWER: ‘YES’

In this section I will discuss some possible reasons for answering ‘YES’ to the Metaphysical Questions and also some possible reasons for answering ‘YES’ to the Semantic Question.

Some of the classic Sense-data theorists of the early C20th justified giving a ‘YES’ answer to the Metaphysical Question on basically phenomenological grounds. For example, consider these well-known passages from C. D. Broad and H. H. Price:

“We notice at once that sensa have some of the characteristics of physical objects and some of those of mental states. On the one hand, they are extended, and have shapes, sizes, colours, temperatures, etc. On the other hand, they do seem to be private to each observer; and this, it will be remembered, is one of the chief marks of the mental as distinct from the physical.” (Broad, 1923, 259)

“... the objective constituents of most, if not all, perceptual situations *cannot* be spatio-temporal parts of physical objects. No doubt they really are extended; they really last for so long; they really have certain shapes, sizes, colours, etc.; and some at least of them stand in spatial and temporal relations to each other. But they are not, in any plain straightforward sense, in the one Physical Space in which physical objects are supposed to be.” (Broad, 1925, 181,)

“When I see a tomato there is much that I can doubt. I can doubt whether it is a tomato that I am seeing, and not a cleverly painted piece of wax. I can doubt whether there is any material thing there at all. Perhaps what I took for a tomato was really a reflection; perhaps I am even the victim of some hallucination. One thing however that I cannot doubt: that there exists a red patch of a round and somewhat bulgy shape, standing out from a background of other colour-patches... that something is red and round then and there I cannot doubt...” (Price, 1932, p.3)

These passages explicitly affirm that sense-data possess shapes and colours. And I take it that Broad and Price *intended* these claims to be accepted on purely phenomenological (i.e. theory-neutral) grounds – hence the phrases ‘We notice at once...’, ‘No doubt...’, ‘One thing we cannot doubt however...’. Of course these days we are all very familiar with the standard sort of representational retort that these claims are neither indubitable nor theory-neutral. The phenomenal appearance of, say, square-ness might alternatively be explained by one’s being in a state that *represents* that there is square-ness before one, without there being any actual instance of square-ness, either in the environment or in the head, with which one is consciously related.

²¹ Of course there is absolutely nothing wrong with answering the Metaphysical Question one way or the other based on whatever is one’s preferred theory about the metaphysics of consciousness – this is how almost all theorists who have offered some kind of answer have proceeded. But given both the intrinsic interest of the Metaphysical Question and the widespread disagreement and lack of consensus about the metaphysics of consciousness it is surely worth considering whether there are also any relatively independent reasons to answer YES or NO.

However, consider the following passage from a more recent paper by Neil Mehta:

“When I introspect my [mango-]experience, the phenomenal colors presented by that experience seem to be instantiated in certain spatial locations, both relative to me and relative to each other... this phenomenally red speck seems to be quite literally *to the left*, simpliciter, of that phenomenally orange speck. If I were to find out that my introspective awareness of the *to-the-left* relation was merely awareness of relations among neuronal firing rates, I would think that introspection was misleading about how phenomenal redness and phenomenal orangeness are related. For a useful contrast, suppose I were to discover instead that my introspective awareness of the *to-the-left* relation was an awareness of spatial relations in a special mental space distinct from ordinary space. Though I would be greatly surprised, I would think that introspection was correct in its deliverances concerning the *to-the-left* relation.” (Mehta, 2013, 7-8)

Mehta is here much more cautious than Broad and Price were about the reliability of introspection, allowing that it could be delivering incorrect, misleading ‘seemings’ about the nature of our own experience. But I think that this passage nicely captures how Broad and Price were plausibly onto *something*, even if they over-stated the point – which is that there is *some defeasible* introspective/phenomenological support for answering YES to the Metaphysical Question²². Whether or not our introspective deliverances are actually trustworthy here, it does at least introspectively *seem* that token instances of phenomenal properties do literally stand in spatial relations to each other. In which case, any theorists who want to answer ‘NO’ to the Metaphysical Question should accept that a cost of their preferred theory is that it conflicts with the introspective appearance of phenomenal experience. So they will be committed to introspection being systematically misleading in this respect. And notice, to repeat, that this includes *orthodox representational theorists*. For if it turned out that my introspective awareness of an apparently actual instance of the ‘to-the-left-of’ relation that apparently holds between the two phenomenal property instances is in fact awareness of some representational content *that*: there is an instance of the ‘to-the-left-of’ relation obtaining between something red and something orange, something that could exist in the absence of any actual to-the-left of relation obtaining between any actual instances of red specks and orange specks in my neighbourhood, then again I would have to conclude that introspective appearances are *misleading* in this respect. Of course, that might well seem a small cost to bear, depending on how one sees the overall theoretical costs vs. benefits.

Another philosopher who provides a broadly phenomenological reason to answer ‘YES’ – and who locates a kernel of insight in the writings of the classic sense-data theorists – is Christopher Peacocke in his *Sense & Content*. I expect that many of us recall the passage in

²² Whereas the classic sense-data theorists combined the idea that there are phenomenal elements in experience that are manifestly spatial, with traditional arguments from illusion/hallucination, to reach the conclusion that there must be non-physical/inner elements with spatial properties, Mehta argues in the opposite direction. He starts from the premise that the only literally spatial domain is the one physical environment we share – i.e. there are no inner private spatial realms. He then argues that the defeasible introspective support for phenomenal features being literally spatial is also therefore some defeasible support for *phenomenal externalism*. For if phenomenal properties really do stand in genuinely spatial relations, as introspection apparently suggests, then they must be instantiated out there in the external world since that is, so Mehta assumes, the only domain where such spatial properties could be instantiated.

the opening chapter of this book, where Peacocke introduces the primed notation “red’”, “square’” to refer to the “sensational properties” of experience that are produced by viewing a red item, or a square item, in “normal circumstances”:

These primed predicates “elliptical’” and “white’” should not be confused with their unprimed homonyms. In using this notation, we are not thereby saying that experiences have colour properties or spatial properties. With this apparatus we can express what would more traditionally have been expressed by saying ‘There is a yellow region of the visual field next to a white square region’. (Peacocke, 1983, p.20)

If this was all one remembered from the book, it would be very natural to interpret this passage as supporting a ‘NO’ answer to the metaphysical question – at least for familiar shape and colour properties. However, later in the book, Peacocke actually ends up arguing for a YES answer. Peacocke takes up the question of what it is for some sense modalities (e.g. vision, touch) to be intrinsically spatial, whilst others (e.g. taste, smell) are not. The issue here is that even with those sensory modalities that are not (according to Peacocke) intrinsically spatial, there can nevertheless be 3-dimensional ‘quality spaces’ – e.g. for hearing, the sensory dimensions could be pitch, timbre and loudness – that could vary systematically according to the 3-D spatial properties of an object. (Hence, sensory substitution technology is possible that allows subjects to ‘see’ with their ears or with their skin²³.) But why then is normal hearing and smelling not intrinsically spatial whereas vision and touch are?

Peacocke considers various proposals – appealing to kinds of informational content, or to considerations of how intensity varies, or to a possible link to physical bodily actions – to account for the intrinsic spatiality of the visual modality that do not themselves presuppose spatiality, and rejects them all.

“The conclusion to which all these objections to the various suggestions about intrinsic spatiality point is that we should not be afraid of acknowledging that there are sensational spaces, and their spatiality cannot be explained away as derivative or artificial. ... **The primed properties of the previous chapter – elliptical’ and the rest – are then in one way genuinely spatial properties. They concern shape and size in visual sensational space. We may even say that being elliptical’ is being elliptical in visual sensational space.** There is no ambiguity here since different spaces are in question: we exercise a concept of something being elliptical which is applicable in arbitrary spaces which sufficiently resemble familiar spaces for the notion to make sense.” (ibid., 51-52, emphasis added)

Peacocke also writes of his partial agreement with Sense-Datum theorists:

“Despite the immensely tangled skein into which some such theorists wove themselves, one of their central insights, if my discussion has been correct, is a genuine insight. These theorists characteristically applied spatial vocabulary to sense-data, which they would describe as square, or elongated, and so on. The insight consists in the

²³ Paul Bach-y-Rita is generally considered to be the father of sensory substitution technology – see Bach-y-Rita (1972). See Macpherson (2018) for a very useful overview of this topic.

recognition that there is a need, if one is fully to specify the intrinsic properties of experience, for spatial notions which cannot be captured at the level of representational content.” (ibid., 52-3)

And Peacocke has continued to endorse these ideas in more recent work:

“There is a difference between those sensational properties whose canonical characterization involves colour and those whose canonical characterization involves space. No region of the visual field is itself literally red when our subject sees a ripe tomato.... For spatial properties, however, matters stand differently. The region of your visual field that is white’ when you look at a white dinner plate when sitting at the table is literally an oval region. If we do not use spatial properties in characterizing the visual field, we omit a subjective feature of the experience.” (Peacocke 2008, 10)

So then, Mehta and Peacocke are two rare examples of recent analytic philosophers trying to provide (relatively) theory-neutral, phenomenological support for answering YES to the metaphysical question – i.e. for the claim that: phenomenal experience itself does literally instantiate spatial properties. Now, I certainly don’t want to suggest that these considerations are by themselves decisive. And claims as to what is phenomenologically manifest in experience are always likely to be disputed by someone. But I do want to suggest that these considerations provide at least *some*, defeasible phenomenal/introspective support for answering ‘YES’ to the metaphysical question.

Turning briefly to the Semantic Question, Frank Jackson, in his earlier Sense-Data phase, offered the following line of thought in favour of univocality – i.e. a YES answer to the Semantic Question:

‘Suppose I just cannot tell whether the bright yellow flash is a phosphene or a flash of light. Then I will not know whether to describe my experience as seeing a yellow flash of light or as having a hallucination of one; but I will know that ‘bright yellow’ is the term to use to describe my experience *whether or not* it is a phosphene or a flash of light. But to deny univocality is to adopt a two meanings doctrine: ‘bright yellow’ takes two meanings, one when applied to physical things like light flashes, another when applied to hallucinations like phosphenes; accordingly, one cannot know the meaning of ‘bright yellow’ unless one knows whether it is being applied to something physical or to a visual hallucination. And, hence, it is a consequence of denying univocality that, in the case we have described, I do not know what ‘bright yellow’ means; because I do not know whether I am hallucinating. This is absurd.’ (Jackson, 1977, 75-76)

Alex Byrne offers a similar line of thought in favour of answering ‘Yes’ to the Semantic Question:

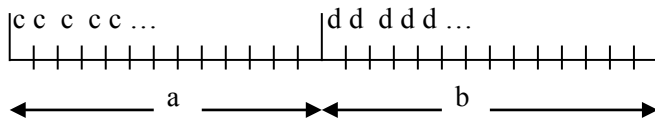
‘[The sentence] ‘My afterimage and this tie are both exactly the same shade of blue’ would strike us as false if ‘blue’ were ambiguous between ‘the color blue’ (not a property of afterimages) and ‘blue*’ (not a property of ties). On the contrary, this sentence seems unproblematically true. Of course, it might not in fact be true. Offhand, the sentence is true only if there are such things as afterimages, and arguably there are

no afterimages, there only seem to be. But this would trace the falsity of the sentence to the metaphysics of afterimages, rather than to an ambiguity in ‘blue.’ (Byrne, 2009)

The idea in common to Jackson and Byrne here is that a phenomenal element/aspect of visual experience *itself* – such as an after-image or phosphene – can be subjectively indistinguishable from an external object or feature that we perceive. (This is also, of course, the core idea in arguments from hallucination.) Given this (alleged) subjective indistinguishability of elements intrinsic to experience itself and the external objects of experience, we will naturally use exactly the same sorts of predicates when trying to describe either kind of element. But as the Byrne passage illustrates, even if this were a persuasive reason to answer YES to the Semantic question, we might still answer NO to the Metaphysical question if we were to then adopt some kind of error theory – e.g. if we *systematically* mis-ascribe spatial properties to our experiences of after-images.

5. PHENOMENOLOGICAL REASONS TO ANSWER: ‘NO’

I think that there is also a cluster of closely related phenomenological reasons that might incline one to answer ‘NO’ to the Metaphysical question, which are all based on certain kinds of indeterminacy or peculiarity about conscious elements or aspects of experience²⁴. As a first example, consider this passage from Wittgenstein’s ‘middle period’ in the early 1930’s:



It is obviously possible for the distances a and b appear to me to be the same in length and for the segments c and the segments d also to appear to me to be the same length but for there still to be 25 c’s and 24 d’s when I count them. And the question arises: how can that be possible?” (Wittgenstein, 1974, § 208, p.258)

Wittgenstein then responds to his own question in the following passage:

‘The moment we try to apply exact concepts of measurement to immediate experience, we come up against a peculiar vagueness in this experience. But that only means a vagueness relative to these concepts of measurement. And, now, it seems to me that this vagueness isn’t something provisional, to be eliminated later on by more precise knowledge, but that this is a characteristic logical peculiarity.’ (1974, §211, p.263)

For our purposes what is important is that, provided we grant the supposedly ‘obvious’ phenomenological datum, these passages provide a reason why at least *some* terms we familiarly use for describing the physical, interpersonal environment would have to have new, different meanings if applied to the phenomenal realm. The point, of course, is that there is a kind of indeterminacy with (what one might call) “phenomenological length”, which has no counterpart when we are dealing with normal physical lengths. On the assumption that the phenomenal appearance of length *just is* the “phenomenal length”, then within the visual field we can have both: $c = d$, and $c = 24/25d$! Thus the notion of “length”,

²⁴ Compare Raleigh (2019), section 3.

which in its normal application to the physical environment can only take one value, cannot have the same meaning when used to describe phenomenological visual space. This “characteristic logical peculiarity” of the predicate when it is used to describe phenomenology amounts to a new meaning. Compare here the following remark of Donald Davidson, who once asked, “If length is not transitive, what does it mean to use a number to measure length at all?” (Davidson, 1976, p. 273). In other words: whatever the property of ‘phenomenal length’ is, if it can simultaneously have two values, or if two phenomenal items can simultaneously have both the same and different phenomenal lengths, then it is a fundamentally different property from the familiar spatial property of length – i.e. physical/environmental length.

Similar considerations occur in Nelson Goodman’s (1951) well-known discussion of how there can be failures of transitivity with the relation of phenomenal similarity amongst colour sensations. If we were to understand the phenomenal appearance of colour in terms of sensations that possess ‘phenomenal colours’, then within the visual field we can apparently have: a is the same phenomenal colour as b (since a and b are indistinguishable in colour appearance), b is the same phenomenal colour as c (since they b and c also indistinguishable in colour appearance), yet a is *not* the same phenomenal colour as c (since a and c appear to have distinguishably different colours). Again then, one might well conclude that whatever the property of ‘phenomenal colour’ is supposed to be exactly, such failures of transitivity shows that it would have to be a fundamentally different property from physical colour – i.e. the sort of colour property that physical objects can instantiate.

Another well-known philosophical discussion in a similar vein is Roderick Chisholm’s famous paper on the problem of The Speckled Hen (1942) – though Chisholm credited the key idea to Gilbert Ryle. Once more the issue here concerns the apparently peculiar, indeterminate nature that sensations (or sense-data) would have to have if we understand them as genuine objects of acquaintance, whose properties determine how things phenomenally appear to us. Very similar objections to sense-data were later pressed by Barnes (1945), Armstrong (1968) and Sanford (1981).

Might this sort of point *generalise* so as to establish that *all/any* predicates for describing the private phenomenological realm would have to differ in meaning from predicates as applied to the physical environment? Well, to the extent that our phenomenology is such that it produces other, similar logical peculiarities, then other predicates whose environmental applications assume, say, that there must be a single determinate value would also then need to have new meanings when used to describe phenomenology. E.g. suppose it is a phenomenological possibility that an element in the visual field both plainly appears to have 6 sides, but whenever the sides are counted they number 7. Then if terms like “hexagon”, “shape” or “number of sides” are being used to describe one’s phenomenology, they would presumably have to have a different meaning to their familiar environmental use. Likewise, if it is a phenomenological possibility that an element in experience appears both to be moving and to be staying still (e.g. as in the ‘Waterfall’ illusion), then what ‘movement’ and ‘location’ mean in a description of such phenomenology would be different to what these terms mean when applied to the physical environment. And I have already mentioned the sort of much-discussed phenomenal sorities cases that go back at least to Goodman: where visual sensation a appears identical in some respect to sensation b, b appears identical in that respect to c, *but* a and c do not appear to be in that respect identical.

However, establishing what is and what is not a phenomenological possibility is an extremely contentious business. It is not obvious then whether the examples of indeterminate “phenomenal length”, or failures of transitivity in color appearances, could be generalised so as to be guaranteed to apply to any phenomenal applications of any familiar predicates. For example it does *not* obviously seem to be a phenomenological datum that a region of the visual field can phenomenally appear to be both black all over and white all over. Nor does it seem to be a phenomenal possibility that one element in the visual field appears to be located both to the left of and to the right of some distinct element. More importantly, even if there are *some* cases where a phenomenal element has such a strange or indeterminate nature that a familiar spatial property such as length could not apply, it is not obvious why this should entail that *other* phenomenal elements in experience, which do *not* exhibit any such peculiarities, should also be debarred from instantiating familiar spatial properties.

So then: whilst these sorts of phenomenological cases of peculiar and/or indeterminate phenomenal elements in experience may provide good reason to deny that *the specific phenomenal elements in question* can be instantiating familiar properties such as shape or colour, it is hard to see how these cases could, by themselves, provide a *general* reason for denying that any phenomenal elements could ever instantiate these familiar properties.

6. A MORE GENERAL PHILOSOPHICAL REASON TO ANSWER: ‘NO’

Might there be other, general philosophical reasons – which do not depend on already endorsing any theory specifically about the nature of conscious experience – for answering ‘NO’ to the metaphysical question? As a brief historical example of the kind of thing I have in mind, perhaps the best-known negative answer to something like the Metaphysical Question comes from Bishop Berkeley, who wrote in his *Principles of Human Knowledge*:

But say you, though the ideas themselves do not exist without the mind, yet there may be things like them whereof they are copies or resemblances, which things exist without the mind, in an unthinking substance. I answer, **an idea can be like nothing but an idea; a colour or figure can be like nothing but another colour or figure.** (PHK, 8, emphasis added)

Berkeley here denies that both mind-independent objects and sensations could possess (i.e. “resemble” each other in respect of) the same qualities, where this denial goes for the “primary” qualities of shape just as much as the “secondary” qualities of colour. Of course, Berkeley famously denied the existence of things ‘without the mind’, so his claim must be understood as a conditional denial: IF there were such things as mind-independent physical objects distinct from any sensations THEN these objects could not possess the same qualities as sensations. Berkeley’s main reason for this denial seems to have been his nominalism – ‘similarity’ between any two items depends on the possibility of their resembling each other in some respect *to some subject*. And so given there would be no possibility of any subject ever being in a position to compare an idea or sensory impression with the (alleged) mind-independent external items that caused them, there is no possibility that they could possess qualities in common. Berkeley’s ‘NO’ answer thus depends on his general philosophical view about the nature of properties. This specific brand of resemblance nominalism will not, I presume, seem like a compelling reason to answer ‘NO’, to many philosophers these days.

However, in this section I want to explore how a different general philosophical view about the nature of empirical properties might support answering ‘NO’ to the metaphysical question.

Recall: if one is already committed to the idea that a phenomenally conscious experience is just a monadic state or modification of the subject and that there are not literally particular phenomenal elements that the subject is consciously related to, or acquainted with, then of course one will immediately answer ‘NO’ to the Metaphysical Question. On the other hand, if one thinks that, say, the shapes and colours of external physical items can constitutively feature as phenomenal elements in experience – as, for example, a Naïve-Realist will think – then one will swiftly answer ‘YES’ to the Metaphysical Question.

So now let’s set aside the phenomenal externalist option for a moment and just consider, for the sake of argument, the position that conscious experience does have a binary, act-object structure, but that the phenomenal elements and features in our stream of consciousness, with which we are consciously acquainted, are distinct from any of the physical items or features in our external environment. Would there then be any general reason why these phenomenal elements could not instantiate, say, familiar spatial properties? One possible thought here is simply that *non-physical* items could not possibly instantiate such properties, and so if sense-data are supposed to be non-physical they must also be non-spatial. This idea is taken for granted by Eric Lormand:

“In ‘forming an image of a banana’ there is nothing obvious in one’s brain or body or (causally relevant) environment that is literally yellow like a banana or curved like a banana. It will not help to appeal to mind/body dualism in locating visual likenesses, since **presumably items made of a non-physical substance cannot literally have color and shape at all.**” (Lormand, 2006, 317, emphasis added)

Lormand clearly expects his readership to accept the presumption that non-physicality entails non-spatiality. But this is surely not just obvious and would be rejected by dualist sense-data theorists. If we’re going to allow (for the sake of argument) a theorist to posit a whole realm of non-physical/non-environmental particulars, which can serve as immediate objects of consciousness, *prima facie* they can also legitimately posit that these inner particulars have whatever properties they want in order to account for the manifest phenomenology of experience. Think here of how H. H. Price insisted that sense-data are 3-dimensional – after all, if you are going to be committed to a whole realm of non-physical/inner particulars, is it really any extra ontological cost to claim that they have three spatial dimensions rather than two? Some further argument is needed then to rule out non-physical items from being literally spatial – it cannot just be presumed.

However, I think that the various examples discussed in the previous section, of the peculiar or indeterminate nature of phenomenology, may point towards a more general concern which is that the kinds of factors that *essentially matter* to a physical external item having, say, a specific length or shape, or standing in a specific spatial relation to something else, just *could not apply* within an inner/non-environmental phenomenal realm. Why should the factors that essentially matter to familiar everyday objects having familiar properties have to be absent when it comes to ‘inner’ items/elements of phenomenal experience itself? Well, one line of thought here starts with the idea that the instantiation of familiar properties essentially

requires that the object in question have *the right kind of causal-counterfactual profile*. For example, Nicholas Rescher writes:

‘To say of an apple that its only features are those it actually manifests is to run afoul of our conception of an apple. To deny – or even merely to refuse to be committed to the claim – that it *would* manifest particular features *if* certain conditions came about (for example, that it would have such-and-such a taste if eaten) is to be driven to withdrawing the claim that it is an apple.
...a thing is what it does: entity and lawfulness are co-ordinated correlates – a good Kantian point’ (Rescher, 2000, 32)

In a similar vein, Rescher’s Pittsburgh colleague Robert Brandom draws the following distinction between modally involved vs. modally insulated predicates/properties:

- **Modally Insulated:** a property, *F*, is modally insulated iff whether some particular, *o*, instantiates *F* in a possible world, *w*, depends only on what is true in *w*.
- **Modally Involved:** a property, *F*, is modally involved iff whether some particular, *o*, instantiates *F*, in a possible world, *w*, depends on what is true in worlds other than *w*. (adapted from Brandom 2015, 64-65)

If we adopt a modally-insulated view of the property: square-ness, an item can be square no matter what its counterfactual behavior/ dispositional profile. So an item could be (actually) square even though *were* you to try counting the number of corners it *would not* be 4, or *were* you to measure the sides, they *would not* all be the same length, or *were* you to look at it, it *would* appear circular etc. Indeed an item could be square in the actual world even though it simply does not exist in any other possible world (i.e. the item is ‘modally flat’). In contrast, if we treat square-ness as a modally-involved property, then whether or not an item is now actually square always depends in part on what *would* be the case, how the item would be or would behave in various counter-factual conditions. With this conceptual distinction in hand, we will naturally want to ask which properties, if any, are modally-insulated and which, if any, are modally involved. And so then one school of thought would be that at least so far as the properties of concrete, physical things are concerned, *all* properties are modally involved – there are *no* modally insulated properties (except perhaps for properties of mathematical or abstract objects). Brandom approvingly labels this the ‘*Kant-Sellars Thesis*’ – every empirical property/predicate is modally involved, none are modally insulated²⁵. And he provides the following examples²⁶:

- (1) The chunk of iron has a mass of 1kg
- (2) The shadow is perfectly circular

Notice that these propositions involve paradigmatically *categorical* properties – shape, mass. But according to Brandom, (1) cannot be true unless:

(1*) A force of 1 Newton would accelerate the chunk at 1m per second per second.

And (2) cannot be true unless:

(2*) If a straight line were to intersect the shadow, it would intersect the boundary of the shadow at exactly one or exactly two points, but not three points.

²⁵ As Brandom notes, this idea is summed up neatly in the title of one of Sellars’ earliest papers: ‘Concepts as involving laws and inconceivable without them’ (1948).

²⁶ See Brandom 2015, 66-67.

He summarises:

“Describing something in the actual situation *always* involves substantial commitments as to how it *would* behave, or what else *would* be true of it, in other *possible* situations.” (Brandom, 2015, 68)

“...even predicates expressing the most paradigmatically categorical of properties (‘wooden’, ‘circular’) have as consequences the kind of subjunctive conditionals that were often appealed to as the defining features of dispositional properties.” (ibid. 71)

And finally, Green & Rabin (2019) in an important recent paper on spatial experience, endorse the following form of *functionalism* about spatial properties:

‘Our concept SQUARE is not constrained to refer to whatever property normally causes squarish experiences. Rather, we suspect its reference is fixed by some combination of relations to other geometrical concepts, beliefs we have about how these concepts apply to things in our environment, interaction with perceptual states, and relations (including causal relations) to worldly properties. The true meta-semantics for SQUARE ... might involve measurement under ideal conditions, dispositions to roll down hills, etc. But they are likely to be functional in character. **Things fall under the concept SQUARE because they play a certain role.**’ (Green & Rabin, 2019, 28, emphasis added)

How is all this relevant to the Metaphysical Question? Well, if one finds plausible something like Brandom’s ‘Kant-Sellars Thesis’, or Green & Rabin’s Spatial Functionalism, one might then think that the kinds of modal profiles, or functional roles, that objects must possess in order to instantiate familiar shapes just could not obtain with inner phenomenal elements or sensations. For if all familiar empirical properties are modally involved, then what it is for an item to be, say, square essentially involves its having a certain causal-cum-counterfactual profile – if we measured each of the sides we would get the same answer, if we counted the corners we would get 4, if we causally intervene and manipulate the item in such-and-such ways it would no longer be square, etc. But when it comes to inner phenomenal elements/features that (supposedly) constitute the stream of consciousness, it seems that if they are supposed to be *non-physical/non-environmental* items – as sense-data were supposed to be – then plausibly they might not be able to display the required sort of counterfactual behaviours. For consider: they would presumably not be subject to causal laws of nature in anything like the way that normal physical objects are. They cannot be measured or manipulated or subjected to any of the kinds of inter-personal verification that normal physical objects can. It is then at least very unclear how there could be determinate facts about, e.g. lengths and distances and angles etc. for ‘inner’, mind-dependent phenomenal items and so it is very unclear how such phenomenal elements could determinately count as square or circular, etc. Moreover, their persistence conditions are also obscure, to say the least, but would presumably be extremely brief and ephemeral and so radically different from the persistence conditions of physical objects²⁷. Something like this line of thought is advanced in a number of places by Charles Travis, though he is here discussing familiar colour properties rather than spatial properties:

²⁷ Once more compare Raleigh (2019), section 4.

“A ball’s being red, as we conceive such things, is something with an etiology and with effects. (Being red has effects, which is why stop signs are.)... A ball’s being red *matters* in a certain way to what there is to encounter in the environment. Nature has a large voice in just how. Nature being granted such a voice is part of what something *environmental* being red *is*... Something’s being red matters in determinate ways. For the environmental, what this mattering is *to* is what is to be met with. In the nonenvironmental case there can be no *such* mattering. When such mattering is stripped away, what would it be for something to be red? What it would be for an environmental item to be red does not yet answer this question. That is why ‘red’ needs new sense to apply in the nonenvironmental case.” (Travis, 2005, 311-312)

“If one were to call some *Vorstellung* ‘red’, he would be using the word in a different sense from that in which it might speak truth of a shift or a beach ball. A *Vorstellung* could not have the sort of property that a shift might. Nor a shift a property that a *Vorstellung* might. For a shift, or whatever, to be red, for Penelope, or whoever, to be *sipping* is always, *per se*, for it to have location in webs of factive meaning; for it to interact with the world as it (or something of its sort) *would*... For a shift to be red, for someone to be sipping, is for that item to have a career, its condition’s (factive) meaning, which extends beyond what is observable on an occasion. Equally for any other generality under which one of our environmental cohabitants might fall.” (Travis, 2011, p547)

Applied to the case of spatial properties, we might put the point as follows: if none of the factors that matter to shape, location, spatial boundaries, persistence through time etc., in the familiar physical environment can comprehensibly apply in the ‘phenomenal realm’ then we cannot grasp what it would be for our familiar predicates of shape, location etc. to correctly apply to items in this new domain. Calling a sense-datum or inner sensation “hexagonal” then would be a bit like saying: ‘The key of C# Minor is hexagonal’, or ‘Tuesdays are hexagonal’. Given that none of the usual causal-counterfactual behaviors that could matter to familiar physical objects being or not being ‘hexagonal’ have any comprehensible application to days of the week, a statement that ‘Tuesdays are hexagonal’, assuming it is making some potentially useful/coherent claim about Tuesdays, must be using ‘hexagonal’ in some totally new sense, on which totally different factors matter to its correct/incorrect application – i.e. we’d have to be speaking of a fundamentally different sort of property.

The basic idea then is that the following two theses could be combined to motivate a ‘NO’ answer to the Metaphysical Question:

- (i) Familiar properties, such as shape and colour, require the right kind of causal-counterfactual profile to instantiate.
- (ii) Inner/mind-dependent elements of phenomenal experience (supposing there are such things) would not have this right kind of causal-counterfactual profile to instantiate familiar properties. (This leaves open whether they would have to be ‘modally flat’ with no counter-factual profile whatever, or whether they could have some other kind of causal-counterfactual profile, which could allow them to instantiate some other, non-familiar kinds of properties.)

And so someone, such as a sense-data theorist, who wants to defend the idea that inner phenomenal elements can have familiar properties, would then want to respond by denying either one of these theses. One could simply deny thesis (i) and insist that familiar properties are ‘modally-isolated’. So then one could happily accept that sense-data have utterly different modal profiles compared to familiar physical objects: they are not constituted by matter, they don’t occupy or take up physical space, they don’t causally interact with each other in anything like the way physical things do, they are not subject to the same laws of nature that govern physical objects and they are not part of the causal order of the world in anything like the same way as physical objects. Indeed, one could even accept that sense-data are modally ‘flat’ and have no counter-factual profile whatsoever (so *this* very sense-datum simply does not exist in any possible world other than the actual world.) *But*, they can still have, say, 4 sides of equal length at right angles to each other, or have every point on their boundary an equal distance from the centre, etc. And that is all that fundamentally matters to instantiating these spatial properties. So they can still be quite literally square or circular. (And they can still be larger or smaller than other sense-data, to the left or the right of the visual field, etc.)

Or, one could accept (or remain neutral about) thesis (i) but reject thesis (ii) and insist that although there are, of course, *some* important differences between the causal-counterfactual profiles of sense-data and of everyday physical objects, still there can be a wide variety of *different ways* in which items can meet the conditions required to instantiate familiar properties like shape and colour. After all, even within our normal physical environment there are particulars that we are apparently happy to apply shape predicates to, which are, ontologically speaking, quite different from familiar physical objects of the table & chair, coffee cup & laptop variety. For example: rainbows, the horizon, ripples and waves, shadows, holes – perhaps also edges and boundaries. The kinds of factors that matter to whether such particulars are, say, round will be *significantly* different to those factors that matter to a cricket ball being round, but they can still, on this view, be quite literally round nevertheless. So, to take one example, one possible conception of a rainbow is that it is a meteorological feature of the environment that more than one subject can experience, which we can photograph, and which is quite literally circular *even though* it does not have any real location or determinate size – or so one might think²⁸. So for a rainbow, unlike a table or a coffee cup, its having the shape it does is *not* something that is essentially connected to its having any specific location or size or occupying space to the exclusion of other things. Rather, its round shape is essentially connected to a different range of causal-counterfactual behaviours – i.e. to a somewhat different functional role, but a role which is still one way of being round. On this sort of view then, rather than being like days of the week or harmonic keys – things for which we can make no good sense of their literally having a shape – inner phenomenal items could be more like rainbows or shadows – ontologically exotic in various ways perhaps, but perfectly capable of being literally circular or hexagonal. One important example in the recent literature of something like this second approach to defending the idea that there can be inner, mind-dependent instances of familiar shape and colour properties in conscious experience occurs in the work of Umrao Sethi (2020, forthcoming). Sethi suggests that there can be multiple and very different *ways* of instantiating sensible properties like shape and colour:

²⁸ I do not myself want to take any stance here about the reality or ontological status of rainbows. This is just meant to be an illustrative example of the sort of ‘non-standard’ particular which we typically describe as being part of the external physical environment and to which we ascribe familiar properties of shape and colour.

“We use the very same colour vocabulary to describe the after-image and the tomato. More broadly, we find it incredibly natural to ascribe colour to entities as diverse as material objects, rainbows, phosphenes, holograms, after-images, and full-blown hallucinatory objects. When we describe all these entities as ‘red’, we do not take ourselves to be equivocating. Similarly, we ascribe shape and size properties just as naturally to material objects, regions of space, abstract entities, after-images, phosphenes, and hallucinatory objects.” (Sethi, 2020, 9)

“Colours and shapes are ontologically flexible properties... whether a particular instance of a sensible quality depends on a mind or on a material object does not follow from the kind of quality it is an instance of. *Qua* instance of a sensible kind like redness, it has an ontologically flexible intrinsic nature.” (ibid. 15)

“Sensible qualities like colour and shape can be construed as qualities that straddle the ontological divide: they can be instantiated either in virtue of inhering in a material object or in virtue of being perceived by a conscious mind.” (Sethi, forthcoming, 11)

One could perhaps interpret Sethi as holding that whilst some instances of familiar properties do essentially depend on the causal-counterfactual profile of the particular which instantiates them, other instances are not modally involved at all – or are at least not modally involved in anything like the same way²⁹.

Whether these approaches to denying (i) and/or (ii) are persuasive will in turn depend, I suspect, on large and difficult issues concerning how we should individuate properties. For clearly there is *something* right to the idea that there can be different ways of instantiating a given property – not every token instance of a property, F, will instantiate F-ness in exactly the same way (with exactly the same causal/counter-factual/functional profile). The specific way in which a 3-D holographic image instantiates the property of being, say, cubic will clearly be different to the way in which a cube of butter instantiates this property. So whatever the essential requirements on being cubic are exactly, they must allow for at least *some* ‘ontological flexibility’ amongst the class of things that can instantiate the property. Likewise for the case of colours: as well as surfaces that reflect light, we also ascribe colours to volumes that *refract* light or *diffract* light and perhaps also to light-sources that *emit* light. So once more it seems that we want to allow that there can be at least these different ways of instantiating environmental colour properties. On the other hand, however, we presumably want some kind of principled limits on this kind of flexibility, since we want to rule out obviously unsuitable or arbitrary things from being able to instantiate the property in question. We do not want the spatial property of being hexagonal to be so flexible in its ways of being instantiated that it could be possessed by a day of the week, like Tuesday, or a harmonic key, such as C# Minor. The only ‘spatial’ property that could be shared by both a hexagonal coin and the key of C# Minor would be some kind of unnaturally disjunctive or gerrymandered property. So whereas a sense-data theorist – and presumably also Peacocke

²⁹ Perhaps the most original and most radical component of Sethi’s position is the idea that instances of sensible qualities, like shape and colour, can be *over-determined* in that a single, numerically identical property instance can simultaneously depend both on an external physical object which possesses it but also on a conscious mind which is consciously aware of it.

and Sethi – will want to insist that it is just a normal, healthy case of ontological flexibility to allow that mind-dependent elements in experience can genuinely/literally instantiate some familiar properties, though they admittedly instantiate these properties in a very different way than familiar physical objects do. In contrast, someone whose sympathies are in line with Travis and Brandom might want to counter that this could no longer be any kind of familiar, natural property but would at best be some kind of unnaturally disjunctive or gerrymandered property. It seems that here we are re-encountering in the material mode an issue that was raised in the formal mode back in section 2, when attempting to clarify the Semantic Question, viz.: when a concept is applied to a new domain, how do we determine whether it is being used with the one, same literal meaning or whether this new application involves some kind of metaphorical extension or change of meaning? Now the issue has become: how do we determine whether two sets of token property instances form a unified, natural property type or whether they are merely a dis-unified, disjunctive type? Just as I made no attempt to answer the question as to when exactly two token predications are or are not synonymous, neither will I attempt to say anything more here about what makes for naturalness or essential unity amongst property types.

7. CONCLUSION

We began with the question of whether conscious experience itself ever literally instantiates any of the familiar properties, such as spatial properties, that familiar everyday objects instantiate. I hope that we now have a clearer picture of the connections between this question and a wide range of other topics. In particular, I hope to have shed some light on some of the reasons one might have to answer YES or NO that do not depend on already subscribing to specific positions/theses about the metaphysics of mind. In summary: I suggested in section 4 that there is at least *some*, defeasible phenomenal/introspective support for answering ‘YES’ to the metaphysical question. In section 5 I suggested that whilst various indeterminate or peculiar characteristics of phenomenal experience may prevent *those very elements/features* from instantiating (or simply being) familiar properties, these sorts of peculiarities in themselves don’t seem to offer a general argument against the idea that *any* inner/mind-dependent elements/features of experience could ever instantiate (or simply be) familiar properties. In section 6 I considered one possible general philosophical motivation for answering NO to the Metaphysical Question, which starts from the idea that familiar properties such as shape and colour are ‘modally involved’ (Brandom), or require a certain ‘functional role’ involving factors such as measurability and dispositions to behave certain ways (Green & Rabin), or are ‘located in webs of factive meaning’ (Travis). The suggestion then was that inner, mind-dependent elements of phenomenal experience (supposing there are such things) plausibly could not have the right kind of causal-counterfactual profile, or functional role etc., in order to instantiate such familiar properties. But whilst this line of thought may be appealing to some, it relies on metaphysical assumptions about what is required to instantiate a familiar property – and perhaps also what makes a property natural – that others may want to reject, especially those already committed to answering YES to the Metaphysical Question.

Throughout the foregoing discussion I have tried for the most part to avoid endorsing any specific position or thesis about the metaphysics of consciousness. My aim has rather been to trace the connections between our two questions and various philosophical commitments and phenomenological claims. However, as the very last point to make, I will venture to suggest

that the overall picture I have sketched might be thought to provide some, albeit perhaps weak, support for the sort of stronger variety of Phenomenal Externalism that was sketched back in section 3. Insofar as the phenomenological considerations mentioned in section 4 really do provide some (perhaps weak) support for answering ‘YES’ to the Metaphysical Question, this would tend to tell against Monadic-State based views (Adverbial, Standard Representational/intentional) and so provide some (perhaps weak) support for *both* Sense-Data and strong Phenomenal Externalist views – both of which can endorse the idea that there are elements/features of/in phenomenal consciousness that are literally spatial (or coloured, etc.) However, strong Phenomenal Externalists, unlike Sense-Data theorists, do not need to take on any of the potentially controversial metaphysical commitments, discussed in section 6, about the nature of properties in order to do so – since it is uncontroversial that everyday, external objects of perception can instantiate (at least some) familiar properties. Whereas, Sense-Data theorists will have to take some position concerning the ‘modal involvement’ and/or the ‘ontological flexibility’ of familiar properties in order to sustain their claim that inner/mind-dependent elements of experience itself can also instantiate these familiar properties. And so to the extent that these commitments are an extra theoretical cost and argumentative burden, (strong) Phenomenal Externalism would seem to be better placed to offer a ‘YES’ answer than Sense-Data style theories³⁰.

References

- Armstrong, D. (1968) *A Materialist Theory of Mind*, Routledge.
- Bach-y-Rita, P. (1972) *Brain Mechanisms in Sensory Substitution*, New York: Academic Press.
- Barnes, W. H. F. (1945) "The Myth of Sense-Data", *Proceedings of the Aristotelian Society*, 45: 89-118
- Bermudez, J. L. (2000) ‘Naturalized Sense Data’, *Philosophy and Phenomenological Research* 61 (2): 353 – 374
- Beck, O. (2019) ‘Rethinking Naïve Realism’, *Philosophical Studies*, 176: 607-633.
- Block, N. (1983) “Mental Pictures and Cognitive Science”, *Philosophical Review* 92: 499-542.
- Brandom, R. (2015). *From Empiricism to Expressivism*. Harvard University Press.
- Broad, C. D. (1923) *Scientific Thought*, London: Kegan Paul.
- Broad, C. D. (1925) *The Mind and Its Place in Nature*, London: Kegan Paul.
- Byrne, A. & Tye, M. (2006) ‘Qualia ain’t in the head’ *Nous* 40(2): 241-255.
- Byrne, A. (2009) ‘Experience and Content’, *Philosophical Quarterly* 59 (236):429-451
- Chalmers, D. (2006) “Perception and the Fall from Eden”, in *Perceptual Experience*, eds. Gendler & Hawthorne, Oxford: Oxford University Press
- Chisholm, R. (1942) “The Problem of the Speckled Hen” *Mind* 51 (204): 368-373.

³⁰ Material from this paper was presented at events in Bochum, Vienna, King’s College London, Potsdam, Zurich, Luxembourg and at the online conference ‘New Waves in Relationalism’ organized by the University of Wisconsin-Madison. I am grateful to the audiences on all those occasions. I am especially grateful to Benoit Guilielmo and to Louise Antony for presenting their comments on my paper at the events in Zurich and Wisconsin (respectively). I am also deeply indebted to Imogen Dickie for very generously and extensively discussing an earlier draft with me. My thanks to: Ori Beck, Farid Masrou, Heather Logue, Umrao Sethi, Bence Nanay, Dominic Alford-Duguid, Thomas Jussuf Spiegel, Johannes Haag, Martin Kusch, David Papineau, James Stazicker, Mirko Farina, Katherina Kinzel, Hans-Johann Glock, Anna Giustina, Arnaud Dewalque, Denis Seron, Sophie Keeling, Frank Hofmann and Stephen Raleigh for helpful questions, comments and criticisms. Finally, my sincere thanks to the anonymous referees for this journal whose perceptive reports very significantly improved this paper.

- Chisholm, R. (1957) *Perceiving: A Philosophical Study*, Ithaca: Cornell University Press.
- Davidson, D. (1976), “Hempel on Explaining Action”, *Essays on Actions and Events*, Oxford: Oxford University Press, 1980, 261–275
- Dretske, F. (1996) ‘Phenomenal Externalism or If Meanings Ain’t in the Head, Where Are Qualia?’ *Philosophical Issues* Vol. 7 (Perception): 143-158.
- Ducasse, A. (1942) “Moore’s Refutation of Idealism”, in P.Schilpp (ed.) *The Philosophy of G.E. Moore*, 223–52, Chicago: Northwestern University Press.
- Frege, G (1918) ‘Der Gedanke. Eine Logische Untersuchung’, in *Beiträge zur Philosophie des deutschen Idealismus*, I (1918–1919): 58–77. Translated as ‘Thoughts’, by P. Geach and R. Stoothoff, in McGuinness (ed.) 1984, pp. 351–372.
- Goodman, N. (1951) *The Structure of Appearances*, Harvard University Press.
- Green, E. J. & Rabin, G. (2019) "Use Your Illusion: Spatial Functionalism, Vision Science, and the Case Against Global Skepticism." *Analytic Philosophy*. DOI: 10.1111/phib.12163
- Harman, G. (1990) “The intrinsic quality of experience”, in J. Tomberlin, ed. *Philosophical Perspectives*, 4. Atascadero, CA: Ridgeview Publishing.
- Jackson, F. (1977) *Perception: A Representative Theory*. Cambridge University Press.
- Kosslyn, S. (1975) ‘Information Representation in Visual Images’, *Cognitive Psychology* (7) 341-370.
- Kosslyn, S. (1980) *Image and Mind*. Cambridge, MA: Harvard University Press.
- Kosslyn, S, (1994) *Image and Brain: The Resolution of the Imagery Debate*. Cambridge, MA: MIT Press.
- Lormand, E. (2006) “Phenomenal Impressions”, in Gendler & Hawthorne (eds.) *Perceptual Experience*, Oxford University Press.
- Lycan, W. (2001) “The case for phenomenal externalism”, *Philosophical Perspectives* 15:17-35.
- Lycan, W. (2019) “Block and the Representation Theory of Sensory Qualities” in Pautz, A. & Stoljar, D. (eds.) *Blockheads: Essays on Ned Block’s Philosophy of Mind and Consciousness*, Cambridge, MA: MIT Press.
- Macpherson, F. (2018) ‘Sensory Substitution and Augmentation: An Introduction’, in Macpherson, F. (2018) (ed.) *Sensory Substitution and Augmentation*, Proceedings of the British Academy, Oxford: Oxford University Press.
- Martin, M.G.F. (2002) “The Transparency of Experience”, *Mind and Language*, 17: 376–425.
- Mehta, N. (2013) “Beyond transparency: the spatial argument for experiential externalism”, *Philosophers’ Imprint*.
- Moore, G. E. (1922) “The refutation of idealism.” In G. E. Moore *Philosophical Studies*. London : Routledge and Kegan Paul.
- Peacocke, C. (1983) *Sense and Content*, Oxford: Oxford University Press.
- Peacocke, C. (2008) “Sensational Properties: Theses to Accept and Theses to Reject”, *Revue internationale de philosophie*, 243: 7-24.
- Price, H. H. (1932) *Perception*, Methuen & Co.
- Pylyshyn, Z. (1973) ‘What the Mind’s Eye Tells the Mind’s Brain: A Critique of Mental Imagery’, *Psychological Bulletin* (80) 1-25.
- Pylyshyn, Z. (1981) ‘The Imagery Debate: Analogue Media Versus Tacit Knowledge’, *Psychological Review* (88) 16-45.
- Pylyshyn, Z. (2002) ‘Mental Imagery: In search of a theory’, *Behavioral and Brain Sciences* (25) 157-182
- Raleigh, T. (2019) ‘Wittgenstein, Spatial Phenomenology, and ‘The Private Language Argument’’, in *Spatial Senses: Philosophy of Perception in an Age of Science*, ed. Cheng, Deroy & Spence, Routledge.
- Rescher, N. (2000) *Nature and Understanding: The Metaphysics and Method of Science*, Oxford University Press.
- Robinson. H. (1994) *Perception*, Routledge.
- Rosenthal, D. (1999) ‘The colors and shapes of visual experiences’, in Denis Fiset (ed.), *Consciousness and Intentionality: Models and Modalities of Attribution*, Kluwer Academic Publishers.
- Rudrauf, D., Bennequin, D., Granic, I., Landini, G., Friston, K., and Williford, K. (2017) ‘A mathematical model of embodied consciousness’, *Journal of Theoretical Biology*, 428: 106–131.

- Russell, B. (1913) “The Nature of Sense-Data –A Reply to Dr Dawes Hicks”, *Mind* 22 (85): 76-81.
- Sanford, D. (1981) “Illusions and Sense-Data” *Midwest Studies in Philosophy* 6 (1): 371-385.
- Schlick, M. (1948) ‘Positivism and Realism’, *Synthese* 7(1): 478 – 505
- Sethi, U. (2020) “Sensible Over-Determination” *Philosophical Quarterly*, 70/280: 588-616
- Sethi, U. (forthcoming) “Mind-Dependence in Berkeley and the Problem of Perception” *Australasian Journal of Philosophy*.
- Shoemaker, S. (1981) ‘The Inverted Spectrum’, *The Journal of Philosophy*, 74:7, 357-381
- Shoemaker, S. (1984) ‘Postscript to “The Inverted Spectrum”’ in *Identity, Cause and Mind*, Cambridge: Cambridge University Press
- Shoemaker, S. (1988) ‘On what there are’, *Philosophical Topics* 16(1): 201-223.
- Shoemaker, S. (1996) ‘Intrasubjective/intersubjective’, in *The First Person Perspective and Other Essays*, Cambridge: Cambridge University Press.
- Shoemaker, S. (2006) ‘The Frege-Schlick view’ in *Content and Modality*, Thomson & Byrne (eds.), Oxford: Clarendon Press
- Smart, J. J. C. (1959) “Sensations and Brain Processes”, *Philosophical Review* 68:141-56.
- Soteriou, M. (2013) *The Mind’s Construction*, Oxford: Oxford University Press.
- Speaks, J. (2009) “Transparency, Intentionalism, and the Nature of Perceptual Content”, *Philosophy and Phenomenological Research* 79: 539–573
- Stalnaker (2003) ‘Comparing Qualia Across Persons’, in *Ways a World Might Be*, Oxford: Clarendon Press.
- Stalnaker (2006) ‘Responses’ in *Content and Modality*, Thomson & Byrne (eds.), Oxford: Clarendon Press
- Travis, C. (2005) “Frege, father of disjunctivism” *Philosophical Topics*, 33(1): 307–334
- Travis, C. (2011) ‘Desperately seeking Ψ ’ *Philosophical Issues*, 21(1): 505–557.
- Tye, M. (1995) *Ten Problems of Consciousness*, Cambridge, MA: MIT Press.
- Tye, M. (2000) *Consciousness, Color, and Content*, Cambridge, MA: MIT Press
- Tye, M. (2009) *Consciousness Revisited: Materialism Without Phenomenal Concepts*. Cambridge, MA: MIT Press.
- Tye, M. (2015) “Phenomenal Externalism, Lolita, and the Planet Xenon,” in *Qualia and Mental Causation in a Physical World: Themes from the Philosophy of Jaegwon Kim*, eds. Terence E. Horgan, Marcelo Sabates, and David Sosa. Cambridge: Cambridge University Press, 190–208.
- Williford, K., Rudrauf, D., & Landini, G. (2012). “The paradoxes of subjectivity and the projective structure of consciousness,” in *Consciousness and Subjectivity*, eds G. Preyer and S. Miguens (Frankfurt: Ontos Verlag)
- Williford, K., Bennequin, D., Friston, K. & Rudrauf, D. (2018) “The Projective Consciousness Model and Phenomenal Selfhood”, *Frontiers in Psychology* 9: 2571.
- Wittgenstein, L. (1953) *Philosophical Investigations*, eds. G.E.M. Anscombe and R. Rhees, trans. G.E.M. Anscombe, Oxford: Blackwell.
- Wittgenstein, L. (1974) *Philosophical Grammar*, R. Rhees (ed.), A. Kenny (trans.), Oxford: Blackwell.