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Two types of qualia theory

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1 Introduction

When bacteria enter my body, if all goes well they are detected and processed by my immune system. When I confront red things of interest in my environment, if all goes well stimulations of my retina cause activations of my optic nerve that are detected and processed by the visual and cognitive systems of my brain. These two processes resemble and differ from one another in various ways. One difference is that the latter typically involves or gives rise to a conscious experience; there is something *it is like* for me to undergo it.

Conscious experience is the subject of many intersecting research issues. According to Ned Block, the central divide between theorists in this area goes between those who think that consciousness is partly constituted by "qualia" and those who do not:

> The greatest chasm in the philosophy of mind – maybe even all of philosophy – divides two perspectives on consciousness. The two perspectives differ on whether there is anything in the phenomenal character of conscious experience that goes beyond the intentional, the cognitive and the functional. A convenient terminological handle on the dispute is whether there are "qualia", or qualitative properties of conscious experience. Those who think that the phenomenal character of conscious experience goes beyond the intentional, the cognitive and the functional believe in qualia (2003, 165).

To say that "qualia" go beyond "the functional" is, I take it, roughly to say that they are something over and above their causes and effects. To say that qualia go beyond "the intentional" is, I take it, to say that they are something over and above the mind's "directedness" at things. For example, it is to say that the quale characteristic of perceptions

of red is something over and above these perceptions' directedness at red objects in the environment, something over and above subjects' "introspective" directedness at their own perceptions, and something over and above the combination of these. It is less clear to me what Block intends to add by saying that qualia go beyond "the cognitive". For present purposes we can leave that open.

My main aim in this paper is to clarify and highlight another theoretical divide, which I think is in many ways more fundamental than the one that Block focuses on. Just to label it for now, the divide is between *Galilean* and *non-Galilean* views of consciousness. This is a divide that runs through "qualia" theory, on many specifications of that term, including Block's: "qualia" theories come in both Galilean and non-Galilean versions.

There are two distinctions to keep track of: (a) between Galilean and non-Galilean *views of consciousness* and (b) between Galilean and non-Galilean *qualia theories*, the latter distinction being an instance of the former. I will focus almost entirely on the latter distinction, (b). I will not trace how the distinction between Galilean and non-Galilean views of consciousness divides the landscape outside of qualia theory. But I will go a bit back and forth between discussing in terms of the more generic distinction (a) and the more specific distinction (b).

The distinction between Galilean and non-Galilean qualia theory has received relatively little attention. One reason for this is, I believe, that it is somewhat delicate to communicate clearly about this distinction. From a Galilean as well as a non-Galilean perspective, it is easy to suppose that you have put your own view in words that make it clear which of these two views you maintain, even though your words in fact do not make that clear. I shall try to bring out how this is so. This will also contribute to clarifying exactly what the distinction between Galilean and non-Galilean qualia theory amounts to.

I shall in addition offer some considerations against each type of qualia theory. To my mind, the considerations are powerful. I expect that supporters of the views will find them less so. But qualia theorists of one type may well find my considerations against the other type convincing. And anyway, I hope the considerations will help to bring out the importance of the distinction between Galilean and non-Galilean qualia theory. For it seems clear that quite

different considerations come into play – or considerations come into play in quite different ways – in assessing the two types of theory.

In section 2 I specify the senses of 'qualia' and 'qualia theory' that I will operate with. Section 3 distinguishes Galilean and non-Galilean views of consciousness and Galilean and non-Galilean qualia theories. Section 4 cites incarnations of Galilean and non-Galilean qualia theories in the literature. Sections 5 and 6 identify communication difficulties that, I believe, contribute to suppress the visibility of the distinction between Galilean and non-Galilean views. Sections 7 and 8 present considerations against Galilean and non-Galilean qualia theories. Section 9 makes some concluding remarks.

2 Qualia and qualia theory

The terms 'quale' (singular) and 'qualia' (plural) are used in many different ways in the literature. In one relatively *minimal* sense of the term, qualia are just whatever it is that constitutes what an experience *is like* to have. But for the most part the term is used in some more loaded sense. One such use is Block's, according to which qualia are properties of conscious experiences that go "beyond the intentional, the cognitive and the functional believe". On another common, more loaded interpretation, qualia are "intrinsic" properties of conscious experiences.[1]

I shall here use the terms in a way that derives from and is closely related to Block's. Unless otherwise noted, I shall take qualia to be *properties of conscious experiences that contribute to constituting what these experiences are like and that go beyond the functional and the "plain" intentional.* By the "plain" intentional character of a mental state, I mean the intentional character that the state can share with some *nonconscious* state. I assume that nonconscious states can be intentional. For example, a subliminal perception can presumably be "intentionally directed" towards, or "about" objects and features in the environment. If any part of the intentionality of a *conscious* perception can be had by a subliminal perception, that intentionality is "plain". If a conscious perception has a kind of intentionality that unconscious perceptions could not have while remaining unconscious, that intentionality is

[1] For orientations about different uses of 'quale' and 'qualia', see Tye 2013, sec. 1, Stoljar 2004, sec. 2.2, and Crane 2000.

"nonplain". If a conscious perception has "nonplain" intentionality that does not reduce to the functional then it has a quale, in the present sense. "Qualia theory" is the view that some conscious experience has some quale, in this sense.

These senses of 'qualia' and 'qualia theory' are in one dimension broader than the senses indicated by Block in the quote above. If an experience has a property that goes beyond *the intentional*, it follows that it has a property that goes beyond *the plain intentional*. But the reverse is not the case. If a perception has nonplain intentionality, then it has a property that goes beyond the plain intentional but it need not have any property that goes beyond the intentional.

Relatedly, while "qualia theory" as presently understood makes a kind of *nonreductionist* claim, it is in one dimension a more *moderate* nonreductionism than "qualia theory" in the sense indicated by the quote from Block. Qualia theory as presently understood rules out that all properties that constitute what experiences are like reduce to the *plain* intentional. But it allows that all properties that constitute what experiences are like reduce to the *nonplain* intentional.

One further restriction will be imposed on qualia theory. I will take qualia theory to maintain that conscious experiences are "inner" states or events, like brain states or states of a nonphysical mind. So for example, according to qualia theory, the tomato that I see is not a constituent of my perception. The perception represents or relates me to the tomato, but the tomato is one thing, "out there", the perception another, "in here".

I shall try to show that there is an important division between "Galilean" and "non-Galilean" versions of "qualia theory" *thus understood*. I believe the division between Galilean and non-Galilean views of consciousness is important more broadly; for example, that it marks an important divide between "qualia theory" on other, common specifications of that term as well. I shall not try to show this, but I hope it will be conveyed.

3 Galilean and non-Galilean views

The distinction between Galilean and non-Galilean views of consciousness concerns whether consciousness, or what it is like, is in part constituted by what I shall call *Galilean qualities* or not. The Galilean view of consciousness is that this is so, the non-Galilean view that it is not.

By a Galilean quality I mean *the kind of quality that is salient in our perceptions and sensations and that Galileo took to "reside in consciousness"*, a view he expressed in passages such as this:

> I think that tastes, odors, colours, and so on are no more than mere names so far as the objects in which we place them is concerned, and that they reside only in the consciousness (1957 [1623], 274).

We come across Galilean qualities, thus understood, in various sense perceptions like sight, smell and taste, and bodily sensations like pains and itches. But for brevity and simplicity I shall mainly focus on the Galilean qualities that are displayed in colour experiences and take these to be representative of Galilean qualities generally.

I believe we can fix our understanding of what Galilean qualities are, in the way that I have just suggested, and hold that understanding fixed as we consider various issues about them. For example, we can consider whether they are reducible to physical properties or not. We can consider whether they are properties of things like tomatoes, things like sense-data, or things like experiences. Relatedly, we can consider whether they contribute to constituting what experiences are subjectively like (as the Galilean view of consciousness says) or not (as the non-Galilean view says).

To understand 'Galilean qualities' in this way is, then, to leave open whether *Galileo* was right in his views about these qualities. One may consistently claim, for example, that contrary to what Galileo thought, Galilean qualities do not "reside only the consciousness". Galilean qualities are identified as the qualities that Galileo had certain views about but we can consider conflicting views about *these very qualities*. So I assume.

The distinction between Galilean and non-Galilean views of consciousness divides *qualia theory* into the following two types of view:

> *Galilean qualia theory*: There are properties of some conscious experiences that partly constitute what these experiences are like and that go beyond the functional and the "plain" intentional, and *these properties include Galilean qualities*.
>
> *Non-Galilean qualia theory*: There are properties of some conscious experiences that partly constitute what these experiences are like and that go beyond the functional and the "plain" intentional, but *these properties do not include Galilean qualities*.

The two types of qualia theory make up very different pictures of consciousness, or what it is like. According to Galilean qualia theory, *what it is like* is or includes qualities that are highly salient, that – figuratively speaking – stare us in the face when we have sense perceptions or bodily sensations and that we can relatively easily focus our attention on.[2] According to non-Galilean qualia theory, what it is like is, presumably, less salient, more elusive and harder to get an introspective grip on and attend to.

Non-Galilean qualia theory can naturally be combined with at least two different views on the "location" of Galilean qualities. It can naturally be combined with the view that Galilean qualities are properties of "outer" things like tomatoes.[3] It can also naturally be combined with the view that they are not properties of anything at all; that they seem to us to be instantiated but are in fact not.[4] By contrast, non-Galilean qualia theory cannot, I think, very

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[2] *Only* figuratively speaking, of course. According to Galilean qualia theory, experienced Galilean qualities are never literally before the face, but belong to experiences, which are "inner" states or events.

[3] This option has an important sub-division in turn. As I understand it here, non-Galilean qualia theory is compatible both with (i) the view that Galilean qualities are (in some sense or other) *subject-relative* properties of outer objects and with (ii) the view that they are *non-subject relative* properties of these objects. According to (i), Galilean qualities are properties that tomatoes have in virtue of being experienced in certain ways by certain subjects. According to (ii), tomatoes have Galilean qualities regardless of how they are experienced. (For the view that Galilean qualities are subject-relative properties of outer objects, see, e.g., Shoemaker 1994a; 1994b. For the view that they are non-subject-relative properties of outer objects, see, e.g., Armstrong 1993 [1968], chap. 12; Hilbert 1987; Campbell 1993; Dretske 1995, chap. 3; Tye 1995, sec. 5.3; 2000, chap. 7; Byrne and Hilbert 2003. (i) is, of course, somewhat Galilean in spirit and someone might find it odd to say that a qualia theory is "non-Galilean" if it is combined with this view. But even if that view has a "Galilean element", it also has a clear non-Galilean element. As understood here, a non-Galilean qualia theory, even when combined with (i), claims that some inner states have properties *other than the Galilean qualities* that contribute to constituting what they are like and that go beyond the functional and the plain intentional.

[4] That Galilean qualities are instantiated in nothing at all is held by Averill (1992), Chalmers (2006), and Pautz (ms).

naturally be combined with the view that Galilean qualities are properties of experiences or mind-dependent sense-data. It would be odd to suggest that Galilean qualities thus belong to the "mind-side of things" but are not among the properties, which some experiences have, that make up what it is like and that go beyond the functional and the plain intentional. Since it would only complicate our discussion to take that unnatural option into account I shall suppose that, on non-Galilean qualia theory, Galilean qualities belong either to outer things like tomatoes or to nothing at all.

Galilean qualia theory can of course be combined with the view that outer objects like tomatoes lack Galilean qualities. On that combination of views *only* experiences have Galilean qualities. In principle, Galilean qualia theory can also be combined with the view that tomatoes have Galilean qualities. On that combination of views *both* experiences and tomatoes have Galilean qualities. I would guess that all or almost all Galilean qualia theorists embrace or trend towards the former combination of views. Since it would again only complicate our discussion to take both alternatives into accounts I shall suppose that, on Galilean qualia theory *only* experiences have Galilean qualities.

I have said that the distinction between Galileanism and non-Galileanism about consciousness cuts across the distinction between qualia theory and non-qualia theory. In addition, each of these distinctions cuts across the much-debated divide between *physicalism*, the view that what it is like reduces to the physical, and *dualism*, the view that what it is like is as primitive as the physical as that neither reduces to the other. There are therefore eight possible combinations of these views. For present purposes, there is no need to spell out these alternatives (the interested reader should be able to do it; this note offers some assistance[5]). I mention the physicalism-dualism divide just to note that it is distinct from and largely independent of the Galileanism-non-Galileanism divide as well as the qualia theory-non-qualia theory divide. (*Largely* independent: we will make contact with the distinction between physicalism and dualism at one juncture in our discussion, in section 7 below).

[5] Regarding the combination of non-qualia theory and dualism: Non-qualia theory says that what it is like reduces to the functional and the plain intentional. One way to combine this with dualism is to maintain that the functional roles of mental states are realised by nonphysical ectoplasm (this option is noted, though not embraced, by Lewis (1966, 20) and Armstrong (1993 [1968], 89-90). Another way is to maintain that *plain* intentionality is nonphysical. On the combination of Galileanism and non-qualia theory: One instance of this is the view that what it is like consists in Galilean qualities that reduce to the functional.

4 Incarnations of Galilean and non-Galilean qualia theory

I shall now cite some examples of the views that have been distinguished. I think it is plausible that all the views to be cited are *qualia theories*, in the present sense. But for brevity I shall not spell out my reasons for thinking so. I shall instead take it as given that they are qualia theories and only cite evidence that the views are *Galilean* and *non-Galilean* respectively.

Unambiguous and succinct endorsements of a specifically *Galilean* qualia theory are, I think, relatively rare. But William Robinson is one example:

> according to QER [*Qualitative Event Realism*, which is Robinson's view] experiences are literally constituted by phenomenal qualities, and the phrase 'red experience' is to be understood as doing exactly what it appears to be doing, namely, predicating 'red' of experiences. According to QER, experiences are real occurrences that resemble and differ from each other not only as to who has them, or when they are had, but in qualitative kind; and the plain nature of these similarities and differences is similarity and difference in colors, timbres, flavors, bodily sensations qualities, and so on (2004, 15).

> According to the view developed here, the color that seems to us to be 'on an object' is in fact a kind of consciousness; it is one of the qualities such that for it to be instantiated is for a conscious event to occur. Those who think that *that* very property occurs in the skin of a tomato, or is a property that a tomato might have all by itself, are mistaken, according to QER (ibid., 32).

It is clear enough from these passages, I think, that by "phenomenal qualities" – or "qualia", as he elsewhere calls them (Robinson 2008, 74) – Robinson has in mind Galilean qualities, and that he thinks experiences have such qualities. And it is clear enough from other passages that he thinks such qualities go beyond the functional and the plain intentional.

Unambiguous and succinct endorsements of a specifically *non-Galilean* qualia theory are even less common. (Section 5 will provide at least a partial explanation of this difference in

visibility between Galilean and non-Galilean qualia theory.) But there are routes by which a theorist's acceptance of or commitment to non-Galilean qualia theory can be inferred. I shall provide illustrations from one type of context, namely where non-Galilean qualia theory can be inferred from a theorist's stance on whether – or in what sense – consciousness is "transparent" or "diaphanous".

The idea that consciousness is diaphanous is often traced to G.E. Moore, who claimed that:

> the moment we try to fix our attention upon consciousness and see *what*, distinctly, it is, it seems to vanish: it seems as if we had before us a mere emptiness. When we try to introspect the sensation of blue, all we can see is the blue: the other element is as if it were diaphanous (1903, 450).

More recently, this idea has been exploited to criticise "qualia" theory (on one specification or other of that term) or to defend one or another alternative view. For example, Gilbert Harman (1990) invokes diaphanousness as part of a defence of functionalism about the mind. Harman claims that:

> When Eloise sees a tree before her, the colors she experiences are all experienced as features of the tree and its surroundings. None of them are experienced as intrinsic features of her experience. Nor does she experience any features of anything as intrinsic features of her experiences. And that is true of you too… Look at a tree and try to turn your attention to intrinsic features of your visual experience. I predict that you will find that the only features there to turn your attention to will be features of the tree (1990, 39).

On the basis of this observation, Harman argues that, even if functional characterisations of the mind leave out intrinsic qualities of experiences they do not thereby leave out anything that we are aware of in having experiences (ibid., 41).

Qualia theorists have often responded to such diaphanousness-based lines of argument by distinguishing weaker and stronger diaphanousness theses, typically conceding or accepting some of the former while rejecting some of the latter. In these responses qualia theorists have

often conceded or accepted diaphanousness theses that are – as far as I can see – plausible only given a *non-Galilean* view of consciousness.

A case in point is Ned Block in the following response to Harman:

> Harman relies on the diaphanousness of perception … which may be defined as the claim that the effect of concentrating on experience is simply to attend to and be aware of what the experience is of. As a point about attention in one familiar circumstance – e.g., looking at a red tomato, this is certainly right. The more one concentrates on the experience, the more one attends to the redness of the tomato itself. But attention and awareness are distinct, and as a point about awareness, the diaphanousness claim is both straightforwardly wrong and misleading (2003, 171).

Block here claims that, if one tries to attend to an experience that one has of a red tomato the effect is that one attends to the redness of the tomato. This may well be correct *given* a non-Galilean qualia theory. On that kind of view, consciousness is quite elusive, perhaps too elusive for attention to get a grip on it, and the effect of trying may well be that one ends up attending to a property of the tomato. Given a Galilean qualia theory, on the other hand, I do not see that Block's claim can be correct. If I assume that kind of view, it seems to me that, the more I concentrate on an experience that I have of a red tomato the more I attend to a property of the *experience*, namely a Galilean quality. Thus, it seems to me that Block in this passage accepts a diaphanousness claim that is plausible only given a *non-Galilean* qualia theory and to that extent commits himself to that kind of view.[6]

Another discussion from which non-Galilean qualia theory can be inferred is by Daniel Stoljar (2004). (This example is perhaps clearer, but it requires a more complex stage-setting.) In Stoljar's terminology, to say that an experience has "phenomenal character" is to say that there is something it is like to have it. To say that an experience has "qualia" is to say that it has properties that are (a) intrinsic to experiences and (b) such that, if an experience has

[6] From conversation, I am not sure Block agrees with my discussion of this passage. If I have understood him right, Block maintains that, even supposing a Galilean view of consciousness, it is correct that the effect of trying to attend to an experience of a red tomato is that one attends to the redness of the tomato. I fail to see the plausibility of that. (It is of some importance here that, as explained in section 3 above, on Galilean qualia theory *only* experiences have Galilean qualities. I do not think there is anything in this that Block contests; for example, I do not think he embraces a Galilean qualia theory on which both experiences "in here" and tomatoes "out there" have Galilean qualities.)

such a property then "one in a position to apprehend this directly by introspection" (sec. 2.2). Stoljar defends the view that experiences have qualia in this sense against "the argument from diaphanousness". But in the fragment of his discussion that is relevant for present purposes, he accepts that, on *one* natural specification of the "direct awareness condition", (b), diaphanousness shows that the condition is *not* met by the phenomenal character of our experience.

In the relevant fragment Stoljar employs the distinction (due to Dretske 1999) between *object*-awareness, *property*-awareness and *fact*-awareness. To borrow Dretske's illustration of it, I am object-aware of the minute-hand of my watch if I see the minute-hand. I am property-aware of its motion if I see its motion – which I typically do only when I set the watch, not when it's running, because then its motion is too slow to be seen by creatures like us. And I am fact-aware that the minute hand is moving if I see that fact. There are different kinds of dissociation between these awarenesses. Most important for our purposes is that I can be fact-aware that the minute-hand is moving without being property-aware of its motion; for example, I can see that the minute-hand is moving by seeing that it occupies different locations at different times (Dretske 1999, sec. 1).

Equipped with this distinction, Stoljar considers the following specification of the claim that someone is *directly fact-aware* that a certain experience, *e*, has a certain phenomenal character, *C*: A subject *S* is directly fact-aware that she has an experience *e* with phenomenal character *C* if and only if *S* is aware that *e* has *C* by being object-aware of *e* and property-aware of *C* (compare Stoljar 2004, sec. 6.3).

Stoljar accepts that in *this* sense we are *not* directly fact-aware that our experiences have the phenomenal characters that they have:

> the diaphanousness of experience will easily establish that one is only indirectly aware that one's experience has any phenomenal character [in this sense] because diaphanousness does suggest that one is not o[bject]-aware of *e* or p[roperty]-aware of *C*. … there is no point doubting that, on this account of directness, my awareness of the intrinsic features of experience is indirect (ibid.).

I take the claim here to be that we are *never* property-aware of *any part* of what our experiences are like. And as far as I can see, this is again plausible only given a non-Galilean view of consciousness. It is clear that we are often "property-aware" of Galilean qualities. And I take it as given that we would, therefore, often be property-aware of at least some part of what our experiences are like *if* Galilean qualities were to partly constitute what it is like. (This is to assume, roughly, that Galilean qualities are not hidden but "manifest" or "surface" constituents of what it is like, if they are constituents of what it is like at all.) From the claim that we are never property-aware of any part of what our experiences are like we can then infer that what our experiences are like is not partly constituted by Galilean qualities.[7]

5 Ways of speaking about "qualia"

So it seems that there are incarnations of both Galilean and non-Galilean qualia theory. However, as I remarked in passing above, qualia theorists rarely make it explicit which of the two views they hold. Given that the two views make up such different pictures of consciousness (compare section 3 above) this is somewhat surprising.

At least part of the explanation of this is, I believe, that it is delicate to communicate clearly about this distinction. I do not think it is terribly difficult to communicate clearly about Galilean qualities and Galilean versus non-Galilean qualia theory. (I have, I hope, succeeded in the foregoing.) But I think it is relatively *easy to fail* in this endeavour. (The task can be compared with reversing a car in a safe way. It is not so difficult to succeed, if one is apprised of the relevant pitfalls and keeps them clearly in mind. But it is easy to fail if one is distracted from, unclear about or unaware of these things.) In this section I will try to bring out one factor that I think contributes to this situation. The next section tries to bring out another.

When one speaks about qualia theory and issues in the vicinity of Galileanism versus non-Galileanism, it may be natural to try to clarify one's views in terms like: 'I don't mean to say that perceptions are red'; or 'qualia are not colours'. Many theorists say things along these lines. For example, Christopher Peacocke introduces "primed predicates", like 'white-prime'

[7] Stoljar has confirmed, in conversation, that his qualia theory is a non-Galilean one.

and ‘red-prime’, for “sensational properties” of experiences, emphasising that these predicates “should not be confused with their unprimed homonyms. In using the notation, we are not thereby saying that experiences have colour properties” (1983, 20–1). Similarly, Brian Loar (2003, 119) uses the term-of-art ‘blue*’ for a certain “quale”, indicating that perceptions are “not blue” – but blue*.

However, such ways of talking are in in fact poor guides as to whether a speaker maintains a Galilean or non-Galilean qualia theory. This is because there are two different attitudes – both somewhat natural – to the use of terms like ‘colour’ and ‘red’. The availability of these two attitudes is apt to generate both *illusions of agreement* and *illusions of disagreement* over the issue of Galileanism versus non-Galileanism.

One attitude is this:

> *Conciliation*: Colour terms should be used for Galilean qualities *if these qualities belong to outer things like tomatoes*. But if Galilean qualities do not belong to tomatoes then colour terms should be used for properties that tomatoes actually have.

As I understand *Conciliation* here, it issues an instruction or norm for *how to speak*. As such it can be issued either as a self-instruction or as an instruction for others. It is similar to instructions that one might naturally issue for terminological inventions, as in: *‘whigular’ should be applied to something if and only if it is white and triangular*. I will assume that a speaker can control what she uses a term like ‘red’ for in much the same way that she can control what she uses a term like ‘whigular’ for. Something similar to *Conciliation* could be issued as a principle for how to *interpret other speakers*. I think *Conciliation* suggests such a principle: If a speaker self-instructs *Conciliation* and follows that instruction, it would be reasonable to interpret her accordingly. But *Conciliation* is not here intended to state – nor necessarily entail – any principle for interpretation. Parallel remarks apply to the second attitude to be announced shortly.

The idea behind *Conciliation* is that a term like ‘red’ should “preferably” be used for a Galilean quality. However, this preference may be overridden in accordance with a certain principle of conciliation. The principle is that, however the world turns out to be, one should

speak in such a way that certain sentences that are entrenched in our everyday dealings with the world – like, 'tomatoes are red', and 'perceptions are not red' – come out true.

To illustrate what *Conciliation* yields and how it fits with the background principle, suppose you should find out that Galilean qualities in fact belong to tomatoes but not to perceptions. In this case, *Conciliation* does not force any adjustment of the preferred use of 'red'. Because if you use 'red' for a Galilean quality and Galilean qualities in fact belong to tomatoes but not perceptions then you speak truly when you utter the sentence, 'tomatoes are red but perceptions are not'.

Suppose on the other hand you should find out that perceptions but not tomatoes have Galilean qualities. Then *Conciliation* recommends an adjustment in the preferred use of 'red'. Because if you use 'red' for a Galilean quality and the world is this way then you would speak falsely if you uttered 'tomatoes are red' and also if you uttered 'perceptions are not red'. By *Conciliation*, you should therefore use 'red' for some appropriate non-Galilean property that tomatoes have but perceptions lack, such as some light reflectance property.

The second attitude to colour terms is this:

> *NonConciliation*: Colour terms should be used for Galilean qualities *whatever these qualities are properties of*.

The idea behind *NonConciliation* is that one should fix the reference of 'red' to a Galilean quality and keep that reference fixed come what may. *NonConciliation* lacks the "loyalty" to certain everyday sentences that lies behind *Conciliation*. According to *NonConciliation* one should assent to a sentence like 'tomatoes are red' if tomatoes have "red" Galilean qualities, but one should dissent from that sentence if tomatoes do not have such qualities. If perceptions have "red" Galilean qualities then one should say, 'perceptions are red'.[8]

[8] The two ways of talking, or something much like them, is distinguished and discussed by Shoemaker (1990, 109–110), Chalmers (2006, sec. 9), Sundström (2007, sec. 2), and Pautz (ms, sec. 11). The "conciliation"-terminology is due to Pautz.

We now have two types of qualia theory and two attitudes to colour terms. Putting them together, we have four possibilities. They are listed in table 1, along with some verbal reports that one may expect from someone who accepts one package or another.

Qualia theory + attitude to colour terms	**Expected reports**
Galilean qualia theory + NonConciliation	'Perceptions are red'. 'Tomatoes are not red'.
Galilean qualia theory + Conciliation	'Perceptions are not red'. 'Tomatoes are red'.
Non-Galilean qualia theory + NonConciliation	'Perceptions are not red'. ?
Non-Galilean qualia theory + Conciliation	'Perceptions are not red'. 'Tomatoes are red'.

Table 1.

(The question mark in the right-hand column of the third row in table 1 signals that *Non-Galilean qualia theory + NonConciliation* may determine either that one should report 'tomatoes are red' or its negation depending on whether one takes Galilean qualities to be properties of outer things like tomatoes or of nothing at all. These two options for non-Galilean qualia theory were identified in section 3 above.)

From table 1 we can see how the two attitudes to colour terms may generate both illusions of agreement and illusions of disagreement over the issue of Galileanism.

Consider a *Galilean qualia + Conciliation* theorist and a non-Galilean qualia theorist (adopting either *NonConciliation* or *Conciliation*). Both can be expected to report, 'perceptions are not red'. They might therefore appear to agree over the issue of Galileanism. But they do not. One maintains a Galilean view, the other a non-Galilean view.

Consider on the other hand a *Galilean qualia + NonConciliation* theorist and a *Galilean qualia + Conciliation* theorist. They are expected to report, 'perceptions are red' and 'perceptions are not red' respectively. They might therefore appear to disagree over the issue of Galileanism. But they do not. Both maintain a Galilean view.

Note that the introduction of terms-of-art, like 'qualia', 'sensational quality', 'blue*', or 'colour-prime' does not by itself help these matters. *Any* theorist who finds it natural to report 'perceptions are not red' but who thinks that perceptions have properties that constitute what they are like may find it useful to adopt such a terminology and report things like, 'perceptions are red-prime'. But agreement in a report like this does not necessarily express agreement over the issue of Galileanism. A *Galilean qualia + Conciliation* theorist will naturally use 'red-prime' for a Galilean quality, while a non-Galilean qualia theorist (adopting either *Conciliation* or *NonConciliation*) will naturally use it for some property of experience other than a Galilean quality.

It is worth taking note of a few further things that can be read off table 1.

(i) If a qualia theorist accepts 'perceptions are red' one can infer that she is both a Galilean and follows *NonConciliation*.

(ii) By contrast, if a qualia theorist accepts 'perceptions are not red' one can rule out only that she is *both* a Galilean and follows *NonConciliation*. But one cannot rule out that she is a Galilean, nor that she follows *NonConciliation*.

(iii) This is to say that Galilean qualia theorists have a means of making their view clear that non-Galileans lack.[9] Similarly, *NonConciliation* theorists have a means of making clear their use of terms that *Conciliation* theorists lack.

(iv) If it is known on other grounds that a qualia theorist follows *NonConciliation*, then one can infer from her acceptance of 'perceptions are not red' that she is a non-Galilean.

[9] This is the proposed partial explanation, mentioned in section 4 above, of why Galilean qualia theory is more visible in the literature than non-Galilean qualia theory.

(v) Similarly, if it is known on other grounds that someone is a Galilean qualia theorist then one can infer from her acceptance of 'perceptions are not red' that she follows *Conciliation*.

(vi) By contrast, if a qualia theorist follows *Conciliation*, that alone determines that she will accept 'perceptions are not red'. This acceptance therefore reveals nothing about her view of consciousness. (And it allows her to remain uncommitted, if she has not made up her mind).

(vii) Similarly, if someone is a non-Galilean qualia theorist, that alone determines that she will accept 'perceptions are not red'. Acceptance of this sentence therefore reveals nothing about her attitude to colour terms. (And it allows her to remain uncommitted, if she has not made up her mind).

(viii) The availability of *Conciliation* is the ultimate source of the present communication difficulties. If *NonConciliation* were the only natural attitude to the terms, speakers' attitudes to 'perceptions are red' would always reveal their view of (the relevant aspect of) consciousness. However, the availability of *both* linguistic attitudes introduces a source of error that would not obtain if *Conciliation* had been the only option. The availability of *NonConciliation* may create an erroneous *expectation* of successful communication. Someone who finds *NonConciliation* the only or clearly most natural attitude may erroneously suppose that reports like 'perceptions are not red' are informative about speakers' view of consciousness: she may take such sentences to reveal a non-Galilean view even though they do not.

I think it is plausible that both *NonConciliation* and *Conciliation* are (not just somewhat natural but) actually adopted by many theorists – and by lay people as well. For example, Galileo and William Robinson seem clearly to adopt *NonConciliation*. Robinson's claim, quoted in section 3, that "the color that seems to us to be 'on an object' is in fact a kind of consciousness" is evidence that he follows *NonConciliation* (and is a Galilean; compare point (i) above). Similarly for Galileo's claim, quoted in section 2 above, that "colours … reside … only in the consciousness". More generally, this attitude to language is, I think, common among contemporary perception psychologists.[10] On the other side, Locke seems to adopt

[10] See for example Palmer: "Color is a *psychological* property of our visual experiences when we look at objects and lights, not a *physical* property of those objects or lights" (1999, 95).

Conciliation, at least in some passages. It seems clear that Locke thinks that Galilean qualities do not belong to outer objects like tomatoes. Yet, he at least sometimes says that such objects have "colours".[11] If it is right that there are incarnations of both Galilean and non-Galilean qualia theory and of *Conciliation* as well as *NonConciliation* ways of talking then it is plausible that the illusions of agreement and illusions of disagreement mentioned above are not just possibilities but that they sometimes obtain.

None of this is to say that it is impossible – or even very hard – to communicate successfully about Galilean versus non-Galilean qualia theories. As I have said, I hope to have succeeded myself in the foregoing, in particular in section 3. The strategy adopted there was, in effect, to introduce the technical term 'Galilean qualities' and make clear that its reference is fixed to certain qualities regardless of how the world turns out to be. The stipulation thus made for 'Galilean quality' resembles *NonConciliation* (for colour terms) in being a kind of rule such that, if it is clear that it is followed, succinct communication about Galilean and non-Galilean qualia theory is facilitated – as table 1 illustrates.

6 Conflicting claims to the "default ground"

One may still wonder why qualia theorists have not taken greater care to overcome these obstacles to communication. In part this may be because the communication difficulties generated by the two ways of talking have not been clearly enough identified. But I suspect there is also another factor, namely that Galilean and non-Galilean qualia theorists both have some ground for thinking that, given that *qualia theory* is right, *their* version is the default, which one may reasonably take anyone in the debate to accept unless she clearly states otherwise, and that it is therefore not necessary for *them* to take special caution to make their view clear.

On the non-Galilean side, we presumably at some level take Galilean qualities to belong to tomatoes, lemons and cucumbers in the environment as we go about our practical everyday

[11] See Locke 1975 [1689], sec. 2.8.10. Locke does not consistently talk this way. In another section, he says, about porphyry: "It has, indeed, such a Configuration of Particles, both Night and Day, as are apt by the Rays of Light rebounding from some parts of that hard Stone, to produce in us the *Idea* of redness, and from others the *Idea* of whiteness: But *whiteness or redness are not in it at any time*, but such a texture, that hath the power to produce such a sensation in us" (2.8.19; italics of the last sentence added).

lives. That is where vision seems to me to present these qualities and I never question that presentation until I consider the "scientific image" of the world or reflect on perceptual phenomena like illusions and hallucinations.[12] Bearing this in mind, the non-Galilean version of qualia theory may be regarded as closer to "common sense" than the Galilean one.

Moreover, at least since David Armstrong (1961; 1993 [1968]), a number of influential philosophers – including Shoemaker, Campbell, Dretske, Tye, and Byrne and Hilbert – have argued that our naïve take on the world with regard to Galilean qualities is also ultimately correct: Galilean qualities do belong to objects like tomatoes; they are not sense-data or properties of experiences.[13] Meanwhile, that "non-Galilean" aspect of these views has often been left unchallenged even when other aspects of the views have been contested. For example, Block, in the paper quoted in the introduction, contests the "intentionalism" of the views of Armstrong, Dretske, Tye and Byrne and Hilbert. But, as should be clear from the above, contesting *intentionalism* is compatible with maintaining a very non-Galilean picture; for example, one variety of non-Galilean qualia theory simultaneously maintains (a) that there are properties other than Galilean qualities that constitute what experiences are like and that go beyond the functional and the intentional, and (b) that Galilean qualities belong to objects like tomatoes.

On the side of Galilean qualia theorists, I believe it is right to say that something much like their picture dominated both science and philosophy at least from the days of Galileo and until the Armstrong-led insurgence in philosophy beginning in the 1960's. The dominant picture, I believe, included at least that Galilean qualities were (i) instantiated qualities and (ii) in some sense on the "mind-side of things". And among the scientifically minded educated public I believe this picture is still often regarded as the only view that an enlightened person could take seriously.[14] In these circles, the *Galilean* version of qualia

[12] Chalmers (2006, sec. 1) nicely characterises this awareness that things might not be as they appear in naïve perception as a "fall from Eden" resulting from eating from the "Tree of Science" and the "Tree of Illusion".
[13] For some references, see note 2. Many philosophers before Armstrong (1961) held that Galilean qualities belong to things like tomatoes. The view is part of Berkeley's idealism, Russell's (1918-1919) "logical atomism" and other varieties of "neutral monism" or "phenomenalism". But new ground was broken when that view of Galilean qualities was combined with "scientific realism" as in Armstrong 1961.
[14] I leave it a bit vague who belongs to the "scientifically minded educated public" and "how often" those in this population take the relevant attitude. Studying related territory, Sytsma (2010) claims that, contrary to what some philosophers have held, the "folk" in fact tend to maintain a "naïve" view according to which Galilean qualities belong to outer objects rather than minds. Sytsma's surveys were conducted among undergraduate students at the University of Pittsburgh; majors in philosophy or psychology were excluded. I suspect one would obtain somewhat different responses if one selected a more clearly scientifically minded population. Aside from

theory may be regarded as closer to "common sense" – or "enlightened common sense" – than the non-Galilean one.

Thus, Galilean as well as non-Galilean qualia theorists have some ground for supposing that, given that qualia theory is correct, their view is the default, which one may reasonably take someone in the debate to accept unless she clearly states otherwise. Together with the communication difficulties identified in section 5, this may contribute to explaining why the division between the two views has received less attention in the literature than is motivated by its importance.

7 The "spatial argument" against Galilean qualia theory

I shall now issue some scepticism about Galilean and non-Galilean qualia theory in turn. To the extent that the considerations I offer are convincing they support a moderate reductionism according to which consciousness reduces to the functional and the plain intentional (compare section 2). But the discussion will also illustrate how very different considerations come into play in assessing the two types of qualia theory.

There is a simple but to my mind powerful argument against Galilean qualia theory. I will call it the "spatial argument". It focuses on Galilean "colour" qualities and runs like this:

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that, I have some concern that Sytsma's studies do not control for the influence of *Conciliation*-like ways of speaking. For example, participants in one of Sytsma's studies on average inclined towards a negative answer to the question, "Do you think that the red you see when you look at a ripe tomato is in your mind?". But if, as section 5 above suggests, *Conciliation*-like ways of talking are relatively natural and sometimes adopted then it may not be right to read a certain metaphysical view out of those reports. A subject might simultaneously be (a) inclined to think that Galilean qualities belong to the mind and (b) inclined to use language in such a way that Sytsma's question should be answered in the negative (compare *Galilean qualia theory + Conciliation* in table 1). (One might perhaps suppose that, while it may be natural to use 'red' in accordance with *Conciliation*, it is not natural to use 'the red *that you see*' in that kind of way. However, I think the latter way of speaking is just as natural as the former. According to a conciliatory instruction concerning 'see', the term should be used for the "experiential connection" you have with Galilean qualities *if* these qualities are properties of outer things like tomatoes; but if they are not then 'see' should be used for the kind of picking-up via the eyes of information about certain surface properties of outer objects like tomatoes. If a Galilean qualia theorist followed that instruction one should expect her to report things like, "the red that I see belongs to the tomato".)

(1) Galilean "colour" qualities are, if they are properties of anything at all, properties of spatially extended things, like surfaces, volumes, or films.
(2) Visual experiences are not spatially extended.
(3) Therefore Galilean "colour" qualities are not properties of visual experiences.

Here and henceforth I adopt *NonConciliation* about colour terms; recall section 5 above. I intend to use 'colour', 'red', and 'yellow' for Galilean qualities regardless of how the world turns out to be. I will here are there use double quotes around the terms as reminders that this non-compulsory practise is adopted.

The spatial argument is valid, and its conclusion contradicts Galilean qualia theory. A Galilean qualia theorist must therefore reject one of its premises. I shall articulate the main options for doing so that I see. To my mind, all options are unattractive. I confess to not have so much to say to someone who is willing to embrace one of them, so I will mostly content myself with laying out the options. Once the options are clear enough, it is clear that they are unattractive. And once it is clear that each option for resisting the spatial argument is unattractive, it is clear that Galilean qualia theory is unattractive. Or so it seems to me. I will consider the two premises in turn.[15]

Regarding premise (1), let me first make some clarifications about what it says and does not say. Consider the "yellow" Galilean quality that you experience when you look at a ripe lemon in favourable lightning conditions. Premise (1) claims that if something has that quality, it must have extension. The quality cannot be a property of an extensionless point in space or of an abstract item like a number. This allows that the quality *itself* is abstract and

[15] Shoemaker advances something much like the spatial argument in this passage: "I am looking at a book with a shiny red cover. The property I experience its surface as having, when I see it to be red, is one that I can only conceive of as belonging to things that are spatially extended. How could *that* property belong to an experience or sensation? Remember that an experience is an experienc*ing*, an entity that is 'adjectival on' a subject of experience. It seems no more intelligible to suppose that a property of such an entity is experienced as a property to of extended materials than it is to suppose that a property of number, such as being prime or being even, is experienced as a property of material things. The literal projectivist view may seem more palatable if the projected properties are said to be properties of portions of the visual field. … But that, if taken literally, amounts to a resurrection of the sense-datum theory, with all its difficulties" (1994a, 25; 1994b, 295). Huemer offers some related considerations concerning sense data (2001, chap. 7; 2011, sec. 3.3). The spatial argument concerns only Galilean *"colour"* qualities and it is admittedly not obvious that a forceful, parallel argument can be construed for all other Galilean qualities. But however that may be, the argument's conclusion still contradicts any theory that says that Galilean "colour" qualities are properties of experiences, which I here take Galilean qualia theory to say. I have become clearer about how the spatial argument might be resisted from discussions with Jesper Östman. For some relevant discussion see Östman (2013, secs. 10.1 and 10.3).

extensionless. Perhaps it is a universal and therefore should be understood to be this way. But (1) claims that it cannot be *instantiated* in something without extension.

(1) does *not* make a claim about how the "yellow" quality is *visually represented*. It is of course typically the case that the yellow quality is represented as belonging to surfaces, volumes or films; our visual experiences typically "bind" the yellow colour quality with some spatial property or other, and it is hard (for me) to imagine experiencing the yellow quality in some other way. But there are all kinds of surprising dissociations among mental faculties, and I see no way to rule out that the neurological literature will one day report on a case of a conscious experience of "yellow" as non-extended.[16] Anyway, such a case would be compatible with (1). (1) says only that the quality cannot in fact *be* a property of something extensionless.

Of course, (1) does not say that all Galilean "colour" qualities that figure in experiences are properties of things that are spatially extended. It does not even say that any of them are. It allows that some or all Galilean "colour" qualities that figure in experiences are *merely represented* and not instantiated properties of anything at all. It claims only that *if* such a quality is instantiated then it is instantiated in something extended.

To my mind, (1) is intrinsically very plausible. I cannot think of a defence of (1) that is stronger than (1) itself. To that extent I find (1) "axiomatic". This means that I have, admittedly, nothing that I find stronger than (1) to say to a theorist – e.g. Galilean qualia theorist – who would consider rejecting (1). I can offer clarifications, like the ones of the preceding paragraphs. I can also suggest some ways of thinking that – while not amounting to arguments for (1) – might help to lay bare its plausibility. Here is one. Consider the proposal that some "yellow" Galilean quality is instantiated in something unextended. One specification of this proposal is that the quality in question is instantiated in some unextended point in physical space; not on a small point, but an unextended point. I find it hard to see

[16] For some of many remarkable dissociations, see Milner and Goodale (2006 [1995]) who report both on subjects who can manipulate objects appropriately in action while being unable to report correctly on the features relevant to these actions, and on subjects with the converse dissociation. One subject, for example, was unable to report correctly on the orientation of a slot but able to place her hand through it on the basis of vision. For another example, Olausson et al (2002) and Olausson et al. (2008) report on a subject who identifies certain tactile stimuli as pleasant to the same degree as control subjects but report the same stimuli as much less intense than the control group, and who also has a strongly diminished capacity to identify the location of the stimuli and even denies having any touch sensation *at all* in daily life.

how *that* specification of the current proposal could be right. And there is, I submit, no specification of the proposal that is *more* plausible than this one.[17]

Turning to premise (2), this confronts a qualia theorist in somewhat different ways depending on what stand the theorist takes on two further issues. The first issue is whether perceptions and sensations are physical or nonphysical. Call the former view *substance physicalism* and the latter *substance dualism*.[18] The second issue is whether qualia theory extends or does not extend to experienced *spatial* properties. Consider a typical perception of a typical ripe tomato. According to Galilean qualia theory as so far specified, the "red" Galilean quality featuring in that perception is a property of the perception, not the tomato. On one version of this theory, the experienced shape is also a property of the perception: the perception is "round" in addition to being "red". Call this *shape-extended* Galilean qualia theory. On another version, the experienced shape belongs to the tomato, and is something that the perception represents or relates the subject to. Call this *non-shape-extended* Galilean qualia theory.[19]

(Throughout this context – including the formulation of the spatial argument at the beginning of this section – I follow a rule akin to *NonConciliation* for terms like 'round' and 'spatial'. I use these terms for certain properties that I am acquainted with through my experience however the world turns out to be. If perceptions have these properties and tomatoes lack them then I say: 'perceptions are round, but tomatoes are not'. I will sometimes use double quotes as reminders of this use, which is not compulsory: an alternative is to adopt a *Conciliation*-like way of using these terms; compare section 5 above.)

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[17] Hume seems to have held that Galilean "colour" qualities may be unextended or properties of what is unextended. The context for this claim is the issue whether space and extension and our ideas of space and extension are infinitely divisible or not. Hume argues that they are not and suggests that our ideas of extension and space are derived from compounds of simple impressions the individual members of which are coloured but non-extended. (1978 [1739], sec. 1.2.1–1.2.3; see also Garrett 1997, chap. 3). I am not aware that Hume has much good company in this view. I note, for example, that (as far as I know and can recall) "sense-datum theorists" have generally held that colour goes with extension in the way that premise (1) claims.

[18] Familiarly, the *substance physicalist* view that *perceptions* are physical is often taken to be compatible with the *property dualist* view that mental *properties* are non-physical. If this is right a substance physicalist Galilean qualia theorist can maintain that Galilean qualities are non-physical properties of physical perceptions. However, see Francescotti 2001 and Schneider 2012 for worries about this kind of combination of views, and Zimmerman 2010 and Lycan 2013 for related concerns. We do not need to concern ourselves with this issue here.

[19] Shape-extended and non-shape extended Galilean qualia theories are to different degrees clearly embraced in the literature. Stubenberg (1998), Robinson (2004), and Östman (2013) clearly embrace shape-extended Galilean qualia theory. It is less easy to find clear endorsements of non-shape extended Galilean quality theory but I guess that this is the dominant view among qualia theorists.

Combining the two distinctions just marked yields four different Galilean qualia theories:

(a) *Substance physicalist, shape-extended* Galilean qualia theory, which says that experiences are physical and have both experienced "shapes" and "colours".
(b) *Substance dualist, shape-extended* Galilean qualia theory, which says that experiences are nonphysical and have both experienced "shapes" and "colours".
(c) *Substance physicalist, non-shape-extended* Galilean qualia theory, which says that experiences are physical and have experienced "colours" but not experienced "shapes".
(d) *Substance dualist, non-shape-extended* Galilean qualia theory, which says that experiences are nonphysical and have experienced "colours" but not experienced "shapes".

Now, *given* either of the two shape-extended theories, (a) or (b), premise (2) of the spatial argument is clearly incorrect. On these views, visual experiences *are* "spatially" extended. Therefore, compatibly with (1), Galilean qualities may well be properties of visual experiences.

It is one option for the Galilean qualia theorist to respond to the spatial argument in this way. But the picture here is of course rather radical. It is a picture according to which, even if "outer" objects like tomatoes should turn out to have "spatial" properties, we could hardly have any reason to believe that they do; at any rate, we would not make the kind of "conscious contact" with such properties of tomatoes that we have with such properties of perceptions. On this picture we are in radical way "out of touch" with the external world.

Premise (2) is harder to reasonably deny given either of the two non-shape-extended options, (c) and (d). The suggestion would be that, when I perceive a tomato, *the roundness that I experience* is a property of the tomato. But the experience has a "shape" too. It may be round, or triangular. And the "redness" that contributes to constituting what my experience is like is (compatibly with premise (1)) a property of a surface of the experience or of the volume that is occupies.

I am inclined to think that that suggestion must, strictly speaking, be incorrect on the grounds that (i) experiences are states or events and (ii) states or events are not spatially extended. Consider for example the kind of states or events that are candidates for being visual experiences on the substance physicalist version of non-shape-extended Galilean qualia theory, namely states or events of the brain.[20] These are, I believe, not spatially extended. *Neurons* are spatially extended. They have surfaces and occupy volumes. But neurons are not states or events. The *firing of* a neuron is a state or event. But *the firing* of a neuron does not, I think, have a spatial extension. It does not have a surface, and does not occupy a volume.[21]

Now, that remark – even if correct – might admittedly challenge the *letter* rather than the *spirit* of non-shape-extended Galilean qualia theory. It is perhaps not an important commitment of Galilean qualia theory that Galilean qualities are properties of *experiences*. The spirit of the view is, arguably, equally compatible with Galilean qualities being properties of, say, *constituents of* experiences. This opens up an option that might be exploited in somewhat different ways by the substance physicalist and the substance dualist non-shape-extended Galilean qualia theorist.

The substance physicalist can exploit the option by suggesting that: neurons are constituents of visual experiences, therefore visual experiences have constituents that are spatially extended, and (compatibly with premise (1)), Galilean "colour" qualities are properties of these neurons; for example, of their surfaces or of the volumes they occupy.

I am again inclined to think that this is an option that is not very attractive. That Galilean "colour" qualities belong to the surfaces of neurons, or the volumes they occupy, is of course a picture that one might naturally use to illustrate a substance physicalist, non-shape extended Galilean qualia theory. But the present option for the theorist to accept it entirely literally. In a world otherwise devoid of Galilean "colour" qualities – where tomatoes do not even have

[20] Recall here the specification from section 2 that, according to qualia theory, experiences are "inner" states or events; the tomato that I perceive is not a constituent of my perception. This understanding is of some importance throughout this context.

[21] This is emphasised by Shoemaker in his variation of the spatial argument; see note 15 above. It might be suggested that, from the point of view of more fundamental theories, neurons are states. I do not think that would in any significant way affect the consideration just presented. If things like neurons are states, we can presumably distinguish between states of different "orders", where the firing of a neuron, being a state of a state, is a state of a higher order than the neuron itself. And we can just as plausibly maintain that (i) experiences are states of a certain order and (ii) only states of a lower order are "spatially" extended.

"grey" qualities of this kind – such qualities are literally properties of the surfaces of the neurons that are involved in colour experiences, or of the volumes that these neurons occupy. (As such, Galilean qualities would of course be invisible to all "outer eyes", and visible only to an "inner eye", or perhaps self-experiencing.)[22]

The *substance dualist*, non-shape-extended Galilean qualia theorist does not have alternatives that are more attractive, as far as I can see. There may be some strain already in supposing (as this theorist seeks to do) that the world contains both "spatially extended" physical objects and "spatially extended" nonphysical objects. One version of this idea – perhaps the most attractive one – is that some "spatially extended" nonphysical objects occupy the same space as some "spatially extended" physical objects, so that the two spatially overlap one another. A substance dualist who is prepared to accept that may suppose that experiences spatially overlap certain neurons and that Galilean "colour" qualities are (compatibly with premise (1)) properties of the volumes these neurons occupy or some surface that they include. That option is, I take it, patently no more attractive than the substance physicalist option just discussed. And it is hard, for me, to think of a substance dualist alternative that is more attractive.

Let me sum up the main options that I see for the Galilean qualia theorist in the face of the spatial argument. In response to the argument, the Galilean qualia theorist may, first, reject premise (1) of the argument. Alternatively, she may reject premise (2) of the argument maintaining a *shape-extended* view according to which experienced "spatial" properties are properties of experiences just as much as experienced "colours". Finally, she may hold a *non-shape extended* view but maintain that experiences – or constituents of experiences – have some "shapes" although not the experienced ones. According to a substance physicalist variant of this suggestion, Galilean "colour" qualities are properties of the surfaces of certain neurons or of the volumes occupied by certain neurons. On a substance dualist variant, they are properties of the surfaces of nonphysical objects that spatially coincide with certain neurons, or of the volumes occupied by these objects. The challenge that the argument

[22] I take it that the picture is not more attractive if one supposes that, contrary to the claim made a few paragraphs above, states or events, like the firing of a neuron, can be spatially extended and therefore (compatibly with premise (1)) have Galilean "colour" qualities. The challenge for the present theorist is still to accept that Galilean "colour" qualities are *literally* spread over some surface or volume of the brain. This is to say that, in the end, not much depends here on the claim that states or events are not spatially extended.

articulates for the Galilean qualia theorist is to adopt one of these options, each of which seems, to me, unattractive.

It may have been noted that, while the spatial argument targets Galilean qualia theory it also targets a broader range of views. Its conclusion contradicts any theory according to which Galilean "colour" qualities are properties of experiences, where experiences are understood as "inner" states or events. (This includes not just "qualia theories", but also views according to which Galilean qualities reduce to the functional or the plain intentional.) Before I move on, I wish to briefly contrast the spatial argument with an argument for the same conclusion that I think is more commonly advanced in the contemporary literature. This other argument says that (i) Galilean qualities are *presented to us* in perception as qualities of outer things, and (ii) it is implausible that these presentations are systematically erroneous. Therefore, these qualities *are* properties of outer things, and not properties of experiences. A version of this line of thought is advanced by Tye:

> None of the qualities of which you are directly aware in seeing the various surfaces look to you to be qualities of your experience. … To suppose that the qualities of which perceivers are directly aware in undergoing ordinary, everyday experiences are really qualities of the experiences would be to convict such experiences of massive error. This is just not credible. It seems totally implausible to hold that visual experience is systematically misleading in this way. Accordingly, the qualities of which you are directly aware in focusing on the scene before your eyes and how things look are not qualities of your visual experience (Tye 2000, 46).

Contrary to Tye, I do not find it so implausible that our sensory experiences should be massively erroneous. And, importantly, the spatial argument that I have pursued does not rely on any such assumption.

A closely connected point is that the spatial argument makes no appeal to the alleged "transparency" or "diaphanousness" of experience in challenging Galilean qualia theory. In section 4, diaphanousness played a role in the "exegetical" project of determining which kind of qualia theory certain theorists might maintain. But I have not here any appeal to diaphanousness for the "systematic" purpose of telling whether a Galilean qualia theory is correct or not.

On a general note, I am inclined to think that transparency observations are not very potent as objections to Galilean qualia theory. A full analysis of this issue would take us too far from our main line of thought. But as a brief pointer, it seems to me that, to make a case against Galilean qualia theory on the basis of transparency one needs some quite substantial supplementary premise, such as the one invoked by Tye above: that our everyday experiences cannot be massively erroneous. If that diagnosis is right then transparency observations do not *on their own* make very forceful objections against Galilean qualia theory, at least.

As I hope to bring out in the next section, things are different in this regard in the case of *non-Galilean* qualia theory.

8 The "subtraction challenge" for non-Galilean qualia theory

A non-Galilean qualia theorist faces, I think, a difficulty of clearly identifying qualia. The challenge can at least in part be thought about as a "subtraction challenge". There are certain phenomena that a non-Galilean qualia theorist must "subtract" in order to home in on qualia, as she construes them. And once these other elements are subtracted, it is unclear – at least to me – that any *qualia* remain.

Consider the difference between a typical *conscious* visual perception of a green tree and a *subliminal* perception of a green tree. At least one part of the difference between these is that one is aware, in a peculiarly first-personal way, of the conscious perception or that one has it, while one lacks that kind of awareness of the subliminal perception. For the time being, I wish to stay neutral on whether this *first-person awareness* contributes any *quale* to the conscious perception; i.e., whether its presence makes the perception have some property that partly makes up what it is like and that goes beyond the functional and the plain intentional. I wish to suggest, in the first instance, that *given neutrality on that issue* there is no reason to suppose that the conscious visual perception has any "non-Galilean quale".

The conscious perception features *intentional directedness* at Galilean qualities. But presumably a subliminal perception can feature intentional directedness at Galilean qualities as well. At least, it is far from clear that it cannot. Any part of the intentionality that the

conscious perception can share with a subliminal perception must be "subtracted" to identify a quale of the conscious perception.

Is there anything in the conscious perception's intentional directedness at the Galilean quality that goes beyond the plain intentional directedness at the same quality in a subliminal perception and that might support non-Galilean qualia theory? There is a difficulty making the case that there is: We are first-personally aware of the conscious perception or that we have it but lack that kind of awareness in the case of the subliminal perception. At the same time, we are trying to tell whether there is a (first-personally detectable) difference between these perceptions *aside* from the first-personal awareness. The task can be compared with trying to tell whether there is a visible difference between seen trees and unseen trees aside from their being seen or unseen. Even if there should be such a difference, there is an obvious difficulty involved in establishing that.

There is more that the non-Galilean qualia theorist must "subtract". Conscious visual perceptions typically have a kind of "global presence" in the mind that subliminal perceptions lack. But it seems plausible that at least part of this global presence can be captured in functional terms. When I have a conscious visual perception of a green tree, the information that there is a green tree at a certain location typically becomes available to a wide range of different mental faculties like memory, reasoning, and planning in a way that it does not when I have a subliminal perception.[23] Likewise for the information that *I see* a green tree. To the extent that this "broadcasting" of information can be captured in functional terms, it must be subtracted in order to isolate a non-Galilean quale.

A conscious visual perception of a green tree seems to feature a kind of "glassy, non-qualitative aura", which might seem the right kind of thing to be a non-Galilean quale. But one thing that is aptly described as a "glassy, non-qualitative aura" featuring in such a perception is the *space* that the tree is perceived as located in, including the distance between the tree and the observer. According to non-Galilean qualia theory this space is no more a part of what the experience *is like* to have than are the Galilean qualities. It is something distinct from the experience that the experience represents or relates the subject to.[24] Thus,

[23] Compare Baars 1988 and Dehaene and Naccache 2001.
[24] I take it as given that, according to the *non-Galilean* qualia theory experienced spatial properties are not properties of experience. Starting from a *Galilean* qualia theory, it is to some extent natural to embrace the

space must be subtracted as well in order to isolate a non-Galilean quale. And, to the extent that it is unclear that the conscious perception's intentional directedness at *Galilean qualities* is nonplain, to that extent it is also unclear that its intentional directedness towards *space* is nonplain.[25]

Now, at *this* juncture, I believe it is effective to appeal to the "phenomenology of transparency". I think this phenomenology does, on its own, make a significant dialectical contribution here. Non-Galilean qualia theory *accepts from the outset* that neither Galilean qualities nor spatial properties belong to experiences. *Given* this substantial background it seems to me that the phenomenology of transparency provides some reason to doubt that experiences have qualia in the present sense. If I reflect on a visual experience of a green tree and take it as given that the Galilean "colour" qualities and the spatial properties that feature in it are not properties of the experience, then it is hard for me to get into focus anything that might be a quale of the experience; when I try, my focus seems to "slip through" to the "colour" qualities and spatial properties.

Let us now return to the first-person awareness of a conscious visual perception or that one has it. Does its presence make a perception have some property that partly makes up what it is like and that goes beyond the functional and the plain intentional? Given all that we have seen needs to be subtracted – Galilean qualities, space, intentional directedness at Galilean qualities and space insofar as it is plain, and "global presence" insofar as it is functional – I see no clear reason to suppose so. It might of course be that some aspect of the "global presence" of a conscious visual perception goes beyond the functional and plain intentional. I find that very hard to assess. But it is at least not clear to me that this is so. In any case, the "subtraction challenge" for the non-Galilean theorist is to clearly isolate such a factor.

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shape-extended view that, *in addition* to Galilean "colour" qualities, experienced "spatial" properties belong to experiences (compare section 7). By contrast, starting from a *non-Galilean* qualia theory, it is, I think, highly unnatural to suppose that, unlike Galilean "colour" qualities, which are not properties of experience, experienced "spatial" properties are.

[25] Parallel remarks apply concerning time and the way it is presented to us. This aspect of experience is perhaps most salient in the case of perceptions of temporally articulated things, such as melodies.

9 Concluding remarks

I have distinguished two types of qualia theory and offered some considerations against each. To my mind the considerations powerful. But whether or not I have made that case convincingly, I hope to have illustrated the importance of the difference between Galilean and non-Galilean qualia theory by showing how different considerations are relevant for their assessments. For example, section 7 tried to show that Galilean qualia theorists should worry at least some about the "spatial argument". But it seems clear that a *non*-Galilean qualia theorist need not worry *at all* about any such argument. On the other hand, section 8 tried to illustrate that a non-Galilean qualia theorist faces a somewhat difficult challenge of clearly identifying qualia. But it is hard to see that a Galilean qualia theorist has a similar difficulty. It is not difficult to clearly identify Galilean qualities, even if one may easily fail to communicate clearly about them. Relatedly, as I have remarked in sections 7 and 8, the much-discussed "transparency" of experience comes into play in quite different ways in the assessment of Galilean and non-Galilean qualia theories. The phenomenology of transparency does, I think, on its own make a significant contribution to the issue whether experiences have non-Galilean qualia, but it does not *on its own* – without substantial further assumptions – make a significant contribution to the issue whether experiences have Galilean qualia.

The considerations have some bearing on the issue of whether consciousness reduces to the physical. Galilean qualia theory naturally generates, I think, a familiar *prima facie* case against physicalistic reductionism. Compare a Galilean "red" quality with any candidate physical correlate of consciousness. The frequently raised, rhetorical, anti-reductionist question comes naturally to mind when one performs this manoeuvre: "How could *this* ("red") be nothing over and above *that* (the physical correlate)?". By contrast, non-Galilean qualia theory does not, I think, naturally generate a parallel *prima facie* case against physicalistic reductionism. As section 8 tries to illustrate, it is not easy to home in on some property of some conscious experience that (a) partly makes up what the experience is like to have, (b) is not a Galilean quality, and (c) goes beyond the functional and the plain intentional. Given this, it seems to me not easy single out some aspect of what it is like, as

the non-Galilean qualia theorist understands it, compare that, whatever it is, with a candidate physical correlate of consciousness and generate a parallel anti-reductionist instinct.[26,27]

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[26] This line of thought is developed, in somewhat different directions, in Sundström 2007 and 2008.

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