

AGAINST PASSAGE ILLUSIONISM

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Temporal dynamists typically hold that it seems to us as though time robustly passes, and that its seeming so is explained by the fact that time does robustly pass. Temporal non-dynamists hold that time does not robustly pass. Some non-dynamists nevertheless hold that it seems as though it does: we have an illusory phenomenal state whose content represents robust passage. Call these *phenomenal passage illusionists*. Other non-dynamists argue that the phenomenal state in question is veridical and represents something other than robust passage. Call this the *veridical passage-less view*. This paper argues in favour of the latter view over the former, by arguing that we should reject passage illusionism.

1. Introduction

We can all agree that it seems to us as though time passes in some purely trivial sense: namely the sense in which it seems as though it is now 1.30 PM, (say), and that it was, earlier, 10.30 AM. It seems as though some duration has elapsed between the former and the latter. Philosophers disagree, however, about whether it seems as though time passes in some more interesting, metaphysically robust, sense. Many have thought that it does seem this way. According to Schlesinger, “[t]here is hardly any experience that seems more persistently, or immediately given to us than the relentless flow of time” (1991: 427). Norton says that “Our sense of passage is our largely passive experience of a fact about the way time truly is, objectively” (2010: 24) and Savitt writes that “[i]t seems manifest in our experience that time flows—from the past, to the present moment, and into the future” (1996: 348). Le Poidevin writes that “we are not only aware of [the passage of time] when we reflect on our memories of what has happened. We just *see* time passing in front of us, in the movement of a second hand around a clock, or the falling of sand through an hourglass, or

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indeed any motion or change at all (2007: 76, my emphasis) and Schuster claims that “the flow of time, or passage, as it is known, is given in experience, that it is as indubitable an aspect of our *perception* of the world *as the sights and sounds that come in upon us*, even though it is not the peculiar property of a special sense” (1986: 695, my emphasis).

Let’s call the phenomenology that these philosophers take themselves to be describing, *the target phenomenology*.¹

In what follows I take the target phenomenology to be *at least* quasi-perceptual in nature.² By this I mean that either the state is perceptual in nature, or if it’s not, then many of the features of that state are shared by paradigmatic perceptual experiences, particularly experiences of change and motion. For instance, this state seems to involve the presentation as of mind-independent features of the world (as distinct from features of our experience) and the content of that state seems to involve the presentation of features of the world in such a way that the content is responsive to the character of the objects presented in experience (such as, for instance, events at times). This in contrast to, say, our experience of imagining a blue cow, which does not seem to be perceptual in either of these ways.

Many philosophers think that the target phenomenology is one in which it seems to us as though time robustly passes. I take this to be the claim that the target phenomenology not only has *phenomenal character*—there is something that it is like to be in that state—but also that it has *phenomenal content*. That is, the state represents the world as being thus and so.³ So according to these philosophers the state represents that time *robustly passes*,⁴ or, as I will say, has content *as of* robust passage.⁵ That is, it represents that our world is as temporal dynamists (i.e., A-theorists) suppose it to be: there is an objective fact as to which moment or set of events is present, and which moment or events that is, changes. I take this to be the view that the target phenomenology has a certain perceptual or quasi-perceptual phenomenal content that represents that time robustly passes.

The quotes at the beginning of this introduction are from authors who think the target phenomenology has phenomenal content as of robust passage, and those quotes are attempts to describe that phenomenology.

1. Latham, Miller, and Norton (2020a) call this our *purported* passage phenomenology (since its content is in dispute).

2. In this I broadly follow Paul (2010), Dainton (2011) Le Poidevin (2007) Sattig (2019a; 2019b) and Frischhut (2015).

3. Hence I take phenomenal content to be a kind of representational content.

4. I talk of robust passage to distinguish it from anodyne passage, which is nothing more than a succession of events, and is something that even non-dynamists can accept.

5. Where the ‘as of’, here, is to draw attention to the fact that the phenomenal content might not be veridical, it might be a phenomenology *of* robust passage since there might not be any robust passage.

Unsurprisingly most temporal dynamists hold that the target phenomenology has content as of robust passage.⁶ They think that the world contains robust passage, and that is why we have veridical states that represent such passage.⁷

*Phenomenal passage illusionists*⁸ (henceforth just *passage illusionists*) agree that the target phenomenology has phenomenal content, and that the content is as of *robust passage*.⁹ But they hold that the content is illusory (i.e., non-veridical) because in fact time does not robustly pass.

Until recently passage illusionism was probably the most common view amongst non-dynamists, who include both B-theorists (see Maudlin 2007; Oaklander 2012; Mellor 1998; Le Poidevin 1991) and C-theorists (see Price 1996; Farr 2012; 2020a). More recently, however, some non-dynamists have rejected passage illusionism in favour of the view that the target phenomenology has some other, veridical, phenomenal content (Deng 2013; Farr 2020b;¹⁰ Frischhut 2015; Bardon 2013). Call this the *veridical passage-less view*.

At this point an important clarification is in order. According to the veridical passage-less view we do not have experiences as of robust passage. Instead, our experiences veridically represent aspects of our non-dynamical world. Sometimes such views are presented as ones on which there is no sense at all in which it seems to us as though time flows, or passes, or is dynamical. This is not what I intend. For instance, Sattig (2019b) describes his view as an account of our experience of temporal flow/passage, although it is a view that is compatible with our world being non-dynamical and yet us not being subject to any illusion. So it is a veridical passage-less view in my terminology. Deng's (2013)

6. Smith (1994) and Schlesinger (1994) defend this view.

7. Not everyone accepts that A-theorists have any kind of explanation for our phenomenology. Price (1996: 14–15) and Prosser (2000; 2007; 2012; 2013) argue that for temporal phenomenology to provide evidence of temporal passage, it must be that the presence of temporal passage makes a difference to our temporal phenomenology. But in fact, temporal passage doesn't make any such difference. In effect, the argument is that given what we know about the physics of our world, temporal passage would be impossible to detect, and hence it is impossible for it to make any difference to our phenomenology. Hence positing robust passage cannot be a good, let alone the best, explanation for that phenomenology.

8. This view is often known simply as phenomenal illusionism (see Baron, Cusbert Farr, Kon, & Miller 2015 and Miller, Holcombe, & Latham 2020). However, since one can be a phenomenal illusionist about contents other than robust passage, I will call this view phenomenal passage illusionism. Hoerl (2014) refers to this view as an error theory.

9. Le Poidevin (2007), Paul (2010) Prosser (2007; 2012) and Dainton (2011; 2012) are all illusionists, though they disagree about the content of the illusion, with Prosser disagreeing with Le Poidevin and Paul that the content is as of robust passage. Instead, he takes the illusory state to represent and enduring self. It remains unclear whether other non-dynamists such as Norton (2010) and Savitt (1996) are rightly characterized as passage illusionists or not. Hoerl (2014) calls this view error theory.

10. Farr talks of the character of the experience rather than its content, and takes it that the character reduces to the character of some set of other (veridical) perceptual experiences.

view is one on which we have experiences that represent *anodyne* passage, and Leininger's (2021) is one on which we have experiences that represent B-passage. Anodyne and B-passage are both 'passage' that is not robust and can obtain in non-dynamical worlds. Yet both of their views count as veridical passage-less views given my terminology.

So, when I talk of veridical passage-less views I intend only the following: these are views on which it does not seem to us, in experience, as though *time robustly* passes: our experiences do not represent that our world is A-theoretic/temporally dynamical. Thus, by parity, the view I call passage illusionism is the view that we are subject to an illusion in which it seems as though time *robustly* passes.

One notable version of the veridical passage-less view is known as the cognitive error view, since it holds that although we in fact have phenomenology with a veridical content, we tend to mistakenly believe that the phenomenology has content as of robust passage (Hoerl 2014; Miller, Holcombe, & Latham 2020; Miller 2019; Baron & Miller 2018). While other versions of the veridical passage-less view have been less well explored, another fairly natural proposal is that not only does the target phenomenology have veridical content, but there is no error anywhere: we don't even misdescribe the phenomenology.¹¹ Rather, at best there is a *philosophical* error that some people make, which is to believe that we describe our phenomenology as being as of passage. Some recent empirical work suggests that this might be so (Latham, Miller, & Norton 2020a).^{12,13}

In what follows I argue against passage illusionism. In doing so I take myself to be providing reasons in favour of a veridical passage-less view.

I assume that our world does not contain robust passage. Given this, I argue, non-dynamists should deny that the content of the target phenomenology is as of robust passage, and hence should reject passage illusionism.

First, (§2) I distinguish two broad classes of view the non-dynamist might take about the target phenomenology: detection vs non-detection views. According to detection views the target phenomenology is the product of the function-

11. Deng (2013) and Farr (2020b) might be seen to have views in this vicinity.

12. See also Shardlow, Lee, Hoerl, McCormack, Burns, and Fernandes (2020), who draw a somewhat different conclusion from their data (i.e., that people do report having a phenomenology as of time robustly passing) Notably, though, the two sets of data look quite similar, and I would be inclined to say that the studies jointly suggest that people do not strongly report having such a phenomenology.

13. It is worth noting that there is also (and interestingly) significant recent empirical work on whether people believe that time is dynamical (i.e., that it robustly passes). Here, the evidence tends to suggest that people do believe that time is dynamical: they tend to have a naïve or folk representation of time that is more like a dynamical model than a non-dynamical one (see Latham, Miller & Norton 2019 and 2020b for empirical work on this). That, of course, is consistent with people not representing, in perceptual experience, that time robustly passes.

ing of some capacity or capacities to detect features of the world. According to non-detection views it is not. I argue that non-dynamists in general, and passage illusionists in particular, will (and should) endorse the former over the latter. So the remainder of the paper focuses on detection-view versions of passage illusionism. In §3 I introduce two strategies that the passage illusionist might adopt in attempting to explain how we come to have an illusory phenomenal state: representational modesty and representational immodesty. §§4–5 then argue that whether the passage illusionist endorses representational modesty (§4) or immodesty (§5) she will have difficulty explaining how we come to have a state with illusory content as of robust passage. I conclude that we have reason to reject passage illusionism in favour of veridical passage-less views.

2. Detection vs Non-Detection Views

Passage illusionists hold that it seems to us as though time robustly passes. So, they hold that we have phenomenology with a certain phenomenal character. In what follows I make no assumption that the phenomenal character of the target phenomenology is exhausted by its phenomenal content (though of course representationalists about character will think this is so). Perhaps there are some aspects of the way things seem to us, in this regard, which either have no determinate content—there is no fact of the matter what they represent—or in which the seeming is in no sense represented as being a feature of the world itself. Torrenco (2017) for instance, thinks this is so: he thinks we have phenomenology with a certain ‘flowy’ phenomenal character, but that we do not represent that time flows because it does not seem to us as though this flowiness is a feature of the world rather than of our experience.¹⁴ For all I say there may be such seemings, and they may sometimes lead us to utter sentences such as ‘time flows’. But if those aspects of phenomenal character are like this, then *whatever* their character it cannot be that by having those experiences it *seems to us as though time flows*. Its seeming that way, if it does, is a matter of our being in a state with phenomenal content, which is why that is what I focus on here.

One might wonder: how can there be any debate about the content of the target phenomenology? After all, lots of people introspect that phenomenology and claim that it seems as though time robustly passes. Surely we should think that this *is* how it seems to them. Before proceeding it’s worth saying something about why I think this way of determining the content of that state is poor.

14. To get a handle on such a view, think about taking off your glasses and noting that everything in the world looks blurry. Still, while things *look* blurry, it does not seem to you as though the world itself is blurry.

First, even setting aside general worries one might have about the reliability of introspection, there are reasons to worry about this method. The descriptions of the target phenomenology found at the beginning of this paper all look quite different, despite the fact that their authors all think they are describing a state whose content is as of robust passage. If we were to include the sorts of descriptions that non-dynamists make of their phenomenology we would get even more divergent descriptions.

Indeed, when we look at empirical research on the ways in which people describe the target phenomenology we find huge differences. For instance, in a study by Latham, Miller and Norton (2020a) we find that ~40% of people strongly agree that it seems to them as though the future is ahead of them and moving towards them, while ~11% strongly disagree that it seems this way, and ~50% neither strongly agree nor disagree. We find similar variation across all the sentences with which participants were presented.

Moreover, since some philosophers have argued that the way we describe the target phenomenology is a product of different theoretical commitments about the nature of time (Braddon-Mitchell 2013), or of different, perhaps implicit, ways of conceiving of time (Latham, Miller, & Norton 2020a), or of using different linguistic or conceptual resources (Miller, Holcombe, & Latham 2020) there is a concern that people will differently describe the target phenomenology. So appealing to their introspected descriptions seems like a poor way to determine the target's content.

At any rate, even after introspecting, non-dynamists still disagree about whether the target phenomenology represents robust passage. So I take this to be an open question.

Illusionists face a burden: they need to explain how it is that we come to have a phenomenal state with illusory content. This is particularly pressing in the case of passage illusionism, since passage illusionists hold that we are subject to a persistent and pervasive illusion (unlike most perceptual illusions) and, further, that the illusory state has representational content as of something that does not actually obtain (and indeed, on some views, as of something impossible). Making sense of how we could be subject to that kind of illusion with that kind of content is what Hoerl (2014) calls the intelligibility problem.¹⁵

There are two broad options the passage illusionist might adopt to provide a solution to the intelligibility problem. The first is *the detection view*. According to that view the illusion as of passage is the product of the functioning of some mechanism(s) whose function is to detect some feature(s) of the environment. When exercising a capacity, *C*, is typically accompanied by some phenomenal

15. See also Frischhut (2015) for discussion of this issue.

state, I will talk of the *phenomenal state as of exercising C*. Then the detection view has it that there is some capacity, or set of capacities, such that the representational content of the phenomenal state as of exercising that capacity or set of capacities is the target phenomenology. The passage illusionist version of this view simply adds to this the claim that the target phenomenology has content as of robust passage.

The other view is the *non-detection view*. This is the view that the target phenomenology is not the product of exercising any capacity to detect a feature of the world. Rather, the target phenomenology in some sense floats free of our exercise of any capacities. As far as I know, no one has such a view and, I think, for good reason.

I noted earlier that the target phenomenology is taken to be at least quasi-perceptual in nature. So regardless of whether one thinks that the target phenomenology has illusory or veridical content, it is very natural to suppose that the state is the product of the functioning of one or more capacities that allow us (perceptually) to detect features of the environment.

The passage illusionist has further reason to suppose this to be so. The explanation of perceptual illusions typically proceeds via an appeal to various capacities and mechanisms that allow us to detect environmental features.

For instance the Müller-Lyer illusion, in which it (mistakenly) appears as though one line is longer than the other, is the product of the fact that the angles on the lines act as depth cues that we associate with three-dimensional scenes. We (or our cognitive systems) then mistakenly view the image as a three-dimensional drawing. A size constancy mechanism, which is a mechanism that allows us to see some objects as being further away, rather than smaller, makes us think that one of the lines is longer. That is because, were the drawing three-dimensional, that line *would* be further away and hence would, in fact, be longer than the other line. So this illusion is the product of perceptual mechanisms that detect three-dimensional shapes at various distances from us.

The point generalizes to other perceptual illusions. The illusion of apparent motion is the product of certain features of our motion detecting sensors. The Chubb illusion (in which objects appear to have more contrast when placed on high-contrast textured background) is thought to be the product of our capacity to detect objects in ambiguous conditions (such as from a distance or through smoke or fog).¹⁶ Similar considerations apply to Adelson's shadow illusion,¹⁷ and Poggendorff illusion.¹⁸

16. For discussion of the Chubb illusion see Lotto and Purves (2001).

17. For discussion see Adelson (2000).

18. See Green and Hoyle (1963) and Greist-Bousquet and Schiffman (1981).

Since the passage illusionist thinks that the target phenomenology has illusory content, it makes sense for her to try to explain its content by appealing to the functioning of such mechanisms.

The most plausible version of the detection view is what I call the *temporal detection view*. On this view the functioning of mechanism(s) that ground our having certain temporal capacities—capacities to detect features of time, or time-related phenomena—are responsible for the illusion as of passage.

Here, I use ‘temporal capacity’ fairly broadly, to include both detecting temporal relations (such as order and duration) and also time-related capacities such as the capacity to detect motion and change, as well as the capacity to mentally time travel (and several others).

Then according to the temporal detection view exercising one or more of these temporal capacities is associated with a representation of robust passage, where that content is the content of the phenomenology as of robust passage.

In what follows I will suppose that the passage illusionist accepts the temporal detection view. Hence her aim is to locate certain temporal capacities that could singly or jointly be associated with a phenomenology as of robust passage.¹⁹

The remainder of the paper argues that on the assumption that time does not robustly pass, we should think that the phenomenology associated with the functioning of these temporal capacities, singly or jointly, does *not* have content as of robust passage.

To make this case I will consider two strategies that the passage illusionist who accepts the temporal detection view might adopt in order to respond to the intelligibility problem.

The first is to accept what I call representational modesty, and the second is to accept representational immodesty. I’ll argue that whichever route the passage illusionist takes she fails to have a satisfactory account of how we could come to have a state with content as of robust passage.

3. Two Strategies for the Passage Illusionist

The first strategy the passage illusionist might adopt is *representational modesty* about the representations that issue from exercising temporal capacities. On this view, when we exercise a capacity to detect some temporal feature *F*, the resulting representation does not have content that is richer than *F*. That is, the content does

19. This is, in fact, the view that phenomenal illusionists have endorsed. See for instance Paul (2010), Le Poidevin (2007) and Dainton (2011; 2012).

not represent F plus G, where G is entirely distinct from F.²⁰ So for instance if representational modesty about the representations that issue from exercising temporal capacities is true, then when we exercise a capacity to detect temporal order we have a state whose representational content is not richer than a representation of temporal order. That is, the state does not both represent temporal order (F), as well as representing something else (G), that is entirely distinct from F.

The alternative view is representational immodesty about the representations that issue from exercising at least some of the temporal capacities. On that view, at least sometimes when we exercise a capacity to detect some temporal feature F, the resulting representation has content that is richer than F. That is, the resulting content is F plus G, where G is entirely distinct from F.

Representational immodesty about the representations that issue from exercising some *non-temporal* capacities has been defended. Chalmers (2006), for instance, argues that our ocular systems detect reflectance profiles. What we represent, however, are not merely reflectance profiles. We don't merely represent that objects are coloured. In addition, we represent that colour properties are *intrinsic* to objects, and that those intrinsic properties are *evenly distributed* across the surface of objects. Reflectance profiles are not intrinsic to objects, nor are they evenly distributed across the surface of objects. So, according to Chalmers, the content of our colour representations is richer than what the mechanism in question detects; our representations attribute to the world properties that it does not have: intrinsic evenly distributed colour properties. Other examples suggest themselves. Perhaps we have a mechanism for detecting the solidity of objects. And perhaps the functioning of that mechanism generates a representation of solidity that represents that solid things are composed of continuous matter. If so, then representations that issue from exercising the capacity to detect solidity are immodest.

Here is a general motivation for representational modesty about the representations that issue from exercising capacities. We have mechanisms that evolved to allow us to detect things in our environment: faces, predators, food, and so on. At least in part, the way that mental states get to have the content they do is by co-varying with the states of the world they represent.²¹ So it is natural to think that when a mechanism that evolved to detect feature F generates some representation, that it generates a representation whose content is not richer than F. Face detection mechanisms detect faces, and thereby represent faces. They don't represent faces plus something else as well.

20. That is, G is (a) non-identical with F and (b) G is non-identical with any proper part of F.

21. See for instance Braddon-Mitchell and Miller (2019) who give an overview of a variety of theories of representation and point out that they all at least require co-variation.

Importantly, though, representational modesty about the exercise of some capacities is not the view that whenever we exercise those capacities, the content of the resulting representation is not richer than the state of the world that triggered the exercise of the capacity. So being representationally modest about the exercise of some capacities is consistent with holding that sometimes when we exercise those capacities the resulting representation is illusory.

To see this, consider our facial detection mechanism. That mechanism evolved to allow us to detect faces. A defender of representational modesty about the representations that issue from the functioning of this capacity will say that when we exercise that capacity to detect faces, the resulting representation is not richer than a representation of a face. That, however, is consistent with us sometimes representing there to be a face where there is none.

Our facial detection mechanisms are in fact very sensitive. They often signal the presence of a face when all that exists are various lines arranged in certain ways. We 'see' a face in the clouds, or on a piece of toast. The friend of representational modesty can think that when we see the face in the sky we are subject to a perceptual illusion. We see something that is not there. But it is still the case that when we exercise the capacity to detect faces, as we do when we see a face in the clouds, *the resulting representation does not have content that is richer than a representation of a face.*

Representational *immodesty* about the representations that issue from the capacity to detect faces is the view that when we exercise the capacity to detect faces we at least sometimes not only represent a face, but also represent something that is entirely distinct from a face. That is, the resulting representation is richer in content than a representation of a face.

In general, representational modesty is perfectly compatible with accounting for perceptual illusions. We've just seen how it can account for the illusion as of a face in the sky, or on some toast. Similar things can be said to explain, say, the Muller-Lyer illusion using a representationally modest view of the relevant representations. In fact, all of the explanations of perceptual illusions I am aware of are ones that trade on the representations in question being modest.

What endorsing representational modesty about the representations that issue from the exercise of various capacities does do, however, is make it difficult to see how we could have perceptual/quasi-perceptual representations with content that represents something that does not exist. In general that should strike you as welcome: it's hard to see how any mechanism could evolve with the aim of detecting some non-existent feature of the world, and hence hard to see why any mechanism would systematically generate perceptual or quasi-perceptual representations of that non-existent thing. But that being so will be a problem for the passage illusionist.

Here is why. If the passage illusionist endorses representational modesty then she will hold that the representations that issue from exercising temporal capacities do not have content that is richer than what those capacities detect. On the assumption that there is no robust passage, none of these capacities detect robust passage. So none of the content of the representations that issue from the exercise of those capacities will be content as of robust passage.

So, one might think, for better or worse the passage illusionist must reject representational modesty.

Indeed, I think that passage illusionists have traditionally taken the route of endorsing representational immodesty. Many passage illusionists have connected the phenomenology as of time robustly passing with the phenomenology as of motion and change, holding that the phenomenology as of robust passage just is the phenomenology associated with our perceiving motion and change.²² For instance Dainton (2012) holds that in perceiving motion/change we do not simply perceive things as (in the case of motion) occupying different places at different times—which is in fact what motion consists in, in a non-dynamical world—but rather, we see them as having some special dynamical quality that is something over and above perceiving things as being in different places at different times. This suggests an immodest view on which our capacities to detect motion/change do not only represent motion/change (by representing a difference in relative location), but also, they represent something *more*, something which does not in fact obtain. As Dainton puts it “in a quite general way, our perceptions of moving objects . . . are associated with distinctively dynamical sensible appearances, *sui generis* forms of experience which are not reducible to (or composed of) sequences of static appearances” (2012: 127). Thus, it seems, our perceptions of motion (at least) have representationally immodest content. They represent not just motion, but something else: this *sui generis* dynamical sensible appearance. Then, as Dainton puts it “our perceptual systems are responsible for creating the dynamical qualities that we perceive moving objects as possessing” (2012: 127).

Part of what motivates this idea is the appeal to (*inter alia*) motion illusions. Both Dainton (2012) and Paul (2010) point to the fact that we are subject to the appearance as of this dynamical quality of movement even when there is no moving object at all (as for instance in cases of apparent motion). The idea is that if we can have experiences as of this dynamical quality in the absence of any real motion at all, this suggests that the experience is the product of some mental process that ‘paints onto’ the world qualities that it does not have. For instance,

22. There are also modest versions of this proposal that are not illusionist views, but are instead veridical passage-less views. These include Farr (2020b), Sattig (2019b) and perhaps also Deng (2013).

Paul argues that illusions such as that of apparent motion show that our cognitive systems “represent the situations as though there is an animated qualitative change in a dot from red to green” (2010: 351) even though actually there are just two stationary dots; one red and one green. Again, here, the idea seems to be that our cognitive systems generate the perceptual illusion not by, say, combining representationally modest representations in such a way as to create an illusory perception, but rather, by our having representationally immodest perceptions of motion and change.

Similarly, Prosser (2016) holds that when we perceptually experience motion and change we experience perduring objects as enduring: we misrepresent the way perceived objects persist through time. It seems most natural to interpret this as the view that the representation that issues from exercising a certain capacity—namely the capacity to detect stages of perduring objects—issues in content that is richer than what that capacity detects, by representing that the stage it detects at one time is numerically identical with the stage it detects at another time. Hence it represents that objects endure, by producing immodest representations.²³

Although passage illusionists have tended to embrace representational immodesty, it is not obvious that they need do so. Indeed, for my purposes it doesn’t really matter which view the passage illusionist endorses, since in what follows I argue that passage illusionism is implausible whichever way it is spelled out.

But it is worth noticing that passage illusionism is not incompatible with representational modesty. It could be that although none of the representations that issue from exercising capacities to detect some temporal feature, *F*, have content that is richer than *F*, nevertheless there is a perceptual or quasi-perceptual state that combines these contents and which has illusory content as of robust passage.

After all, consider how it is that we are able to represent things that do not exist, and perhaps even things that could not exist. A plausible suggestion is that we do so by combining representational elements that have the content they do in virtue of co-varying with states of the world. So for instance, we come to represent flying horses, or unicorns, by combining representational elements—horses, wings, horns—that co-vary with horses, wings and horns and in virtue of that have the content they do.

Now, these kinds of representations are usually not perceptual or quasi-perceptual. We *imagine* a flying horse or a unicorn; we don’t seem to see them. It’s harder to see how this would work when it comes to perceptual or quasi-perceptual content.

23. This is not to say that this is the only way this view could go. There could be a modest version of the view.

But consider Escher's *Relativity*. Plausibly, in seeing that piece of art we have a perceptual state that is illusory in the following sense: it seems to us as though we are seeing an impossible topology. Since there are no impossible topologies, in some sense what we are seeing is illusory. An obvious explanation for our having a state with that content is that we combine various veridical perceptual contents of, say, staircases, in a way that generates the illusory perceptual content.

Regardless of whether you think this is what is going on when we see *Relativity*, the passage illusionist might try to tell an analogous story on which the illusion of robust passage is the product of combining representations that issue from exercising various temporal capacities, where those representations are modest. In what follows, however, I argue that no such story is likely to succeed.

4. Illusory Passage and Representational Modesty

A passage illusionist who embraces representational modesty needs to show how putting together representational contents that issue from the exercise of temporal capacities and whose content is not richer than what those capacities detect, can nevertheless issue in a perceptual/quasi-perceptual representation as of robust passage.

In order to see how she might do this, we need to get a better sense of the various contents to which she has access. I will outline these in the next section by focusing on various capacities that we have to detect aspects of our world. I assume that in exercising these capacities we have perceptual or quasi-perceptual states with certain contents, and that these contents are candidates to be ones that might, jointly, issue in a perceptual or quasi-perceptual representation as of robust passage.

4.1. The Capacities²⁴

First, humans have the capacity to *mentally time travel*. This is the capacity to take the temporal perspective of one's earlier and later selves and to experience things from that perspective (or to imagine it being experienced from that per-

24. In order to articulate each capacity, I will sometimes gesture towards some of the mechanisms that have been posited to ground the capacity. Sometimes this is the subject of debate. While there is largely agreement that various mechanisms are important to our having the temporal capacities we do, there is sometimes disagreement about which mechanisms subserve which capacities, jointly, or severally. I don't want or need to take a stand on this, so I mention various mechanisms only to give a sense of how the capacity could be subserved.

spective). I will call the phenomenal state associated with exercising this capacity the phenomenal state *as of mentally time travelling*. This capacity is not, strictly speaking, a capacity to detect some feature of time. Nevertheless, I will take it to be a temporal capacity in the sense in which I use the term. For a start, the capacity is clearly deeply connected to our capacities to track things at and in time. Second, there is good reason to think that the capacity to ‘move between’ temporal perspectives as one does in mentally time travelling is important in our capacity to represent that we have a succession of perspectives. More generally, the connection between self and memory is well established (Prebble, Addis, & Tippett 2013). The deterioration of episodic memory is associated with a loss of a sense of there being a temporally extended self (Addis & Tippett 2004) and with a loss of a subjective sense of time and a deterioration of the capacity to judge temporal intervals (Carrasco, Guillem, & Redolat 2000; Caselli, Iaboli, & Nichelli 2009).

Humans also have the capacity to measure temporal duration. Here, we should make two orthogonal distinctions. The first is between the *length* of duration measured—*short vs long*—and the second is between whether we measure that duration *retrospectively* or *prospectively*. The reason to suppose that these are distinct capacities (and hence whose exercise is associated with distinct phenomenal states) is that there is good reason to think that these capacities are grounded by distinct mechanisms (even if it is not always agreed exactly which mechanisms these are).

Short durations are durations in the range of milliseconds to minutes. Long durations are durations in the range of a number of minutes through to hours and days. Our capacity to measure short durations is typically tested by prospective and retrospective judgement tasks. In prospective tasks participants are told that the task involves judging duration, and in retrospective tasks they are not: they are simply given a task, and afterwards are asked to make a judgement about an elapsed duration.

With respect to short durations, we know that there are fundamental differences between retrospective and prospective judgement tasks (Hicks, Miller, & Kinsbourne 1976), and it is very likely that different mechanisms subserve these two capacities (Ivry & Hazeltine 1992). For instance, it has been thought, going back at least as far as Treisman (1963), that there is a kind of internal clock (see also Gibbon 1977; Gibbon, Church, & Meck 1984) which consists of a pacemaker, a switch, and an accumulator, and that it is the functioning of this mechanism that affords us the capacity to measure short prospective durations. More recently it has been argued that instead of a dedicated mechanism there is some non-dedicated mechanism (Wittman & van Wassenhove 2009) which tracks the amount of energy spent during cognitive and emotional processing (Eagleman & Pariyadath 2009) or tracks memory decay (Staddon 2005), so that the more

processing or decay detected, the longer the interval is judged to be. Regardless, prospective judgement perception is sometimes known as timing-with-a-timer, and seems to involve experiencing and measuring temporal duration itself.

By contrast, it is thought that retrospective duration judgements involve some other mechanism. Some hold that such judgements are the product of our making inferences about the elapsed duration by, for instance, using information about how many events elapsed during the time to judge the elapsed interval. Some hold that we determine the length of intervals in such tasks by, at least in part, using the same mechanism that underlies our capacity to mentally time travel, by mentally travelling back through the relevant duration. It might be that such judgements are the result of both mechanisms in concert. As such, retrospective duration perception is sometimes known as timing-without-a-timer.

It is also likely that a different mechanism subserves our capacity to measure long durations compared to short ones. It might be that the same kinds of inferential processes that allow us to make retrospective short duration judgements also underlie our long duration judgments (both retrospective and prospective), or that these judgements are subserved, at least in part, by the same mechanisms that underlie our capacity for mental time travel, or both in concert. Or it might be that distinct mechanisms subserve the capacity for long duration perception.

I will distinguish four phenomenologies associated with these four capacities: the phenomenal state *as of short retrospective duration*, the phenomenal state *as of long retrospective duration*, the phenomenal state *as of short prospective duration* and the phenomenal state *as of long prospective duration*. Perhaps it will turn out that some of these phenomenologies have overlapping content, but nothing I say hinges on whether or not this is so.

Humans also have the capacity to make both *temporal order judgements* and *simultaneity judgements*. The former are judgements about which temporal order events occurred in; the latter are judgements about whether or not certain events occurred simultaneously.²⁵ While such judgements are clearly connected, when the temporal distance between two stimuli is sufficiently short we are able to determine that the stimuli are not simultaneous, but are not able to determine in which order the stimuli were presented (Jaskowski 1991; Stelmach & Herdman 1991). This suggests that we do not (always) determine whether stimuli are simultaneous by first determining which (if either) stimuli occurs first. In light of this I'll distinguish two phenomenal states: one that accompanies the exercise of the capacity for simultaneity judgements, and one that accompanies the exercise of the capacity for temporal order judgements. Call the first the phenomenal state *as of simultaneity*, and the latter the phenomenal state *as of temporal order*.

25. Here, we can assume that simultaneity is relative to the frame of reference of the observer and hence that there are facts about simultaneity relative to that reference frame.

Humans have the capacity to perceive change. One account of this capacity (or some aspects thereof) appeals to the capacity of our perceptual systems, via some kind of predictive processing, to constantly make predictions about which stimuli will be received and then to compare the prediction to the stimuli detected. Again, while this capacity is not strictly a capacity to detect temporal features, it is clearly closely connected with said features. Indeed, Hohwy, Paton, and Palmer (2015) argue that in exercising this capacity we have a phenomenal state as of pushing into, or moving towards, the future as the perceptual system “pushes itself” into the future via prediction, and then “finds itself” in the present as stimuli arrive which either verify, or not, the prediction. Call the phenomenology that issues from the exercise of this capacity the phenomenal state *as of perceptual updating*.²⁶

Another well-discussed capacity is the capacity to detect motion.²⁷ Call the phenomenal state associated with the exercise of this capacity the phenomenal state *as of motion*. Recall that Paul (2010) Dainton (2012) and Le Poidevin (2007) argue that the target phenomenology has content as of robust passage, and this is wholly, or in part, the product of our having phenomenologies as of motion (and change).

As I noted earlier, these authors are probably best interpreted as endorsing a representationally immodest view. Nevertheless, the idea that there is an important connection between motion/change and the target phenomenology has independent plausibility, and need not be tied to a representationally immodest approach. The friend of modesty could hold that the complete account of how we come to have an illusory experience as of robust passage appeals, at least in part, to our modest perceptions of motion and change.²⁸ After all, if the target phenomenology is as of robust passage then it represents that which events are objectively present, changes. One way to do this is to represent that presentness *moves*.

Exactly how the phenomenal state as of motion connects to the target phenomenology is unclear. We know that people who have suffered certain kinds of damage to the MT/V5 region of their brain, and consequently suffer motion blindness, perceive the world in a sequence of static snapshots rather than a smooth sequence of moving images (Marcar, Zihl, & Cowey 1997; McLeod, Dittrich, Driver, Perrett, & Zihl 1996). Sometimes such people even perceive mov-

26. Perhaps this phenomenology just is the phenomenal state as of change, and perhaps not. I call it the phenomenal state as of perceptual updating to allow that these might be distinct.

27. For overviews of how we process motion see Culham, He, Dukelow, and Verstraten (2001), Hadad, Schwartz, Maurer, and Lewis (2015)

28. Indeed, Farr’s (2020b) proposal is essentially a modest version of just this view. On this view our target phenomenology (or phenomenologies) is simply the phenomenology associated with periodically perceiving motion and change. There is no illusion.

ing objects appearing to freeze for some period of time. Nevertheless, although the phenomenology of those with such damage is clearly different from typical phenomenology, it is controversial whether the target phenomenology is different. Certainly it is not the case that such people experience time itself as ‘stuck’ in the way that objects can seem to freeze (after all, they experience the object as being stuck *during some period of time*). But perhaps such people do experience alterations to the target phenomenology.²⁹

In what follows I suppose that these are the only capacities that are relevant. Of course there may be some as yet undiscovered capacity to which the passage illusionist can appeal. But in the absence of having found such a capacity I take it that the arguments that follow give non-dynamists good reason to reject passage illusionism.

4.2. Building Illusory Content

If the passage illusionist embraces representational modesty then the phenomenal state associated with the exercise of any of the temporal capacities just listed must fail to have content as of robust passage. That’s because by representational modesty the content of the representations that issue from exercising those capacities is not richer than what they detect, and those capacities do not detect robust passage. While I think this should be uncontroversial, it’s worth setting out the argument, particularly because the defence of one its premises will be important later.

Here it is.

A1: In exercising the capacity to detect temporal feature F, we have a state whose content is not richer than a representation of F: call this RF.

A2: If there is a phenomenal state that accompanies the exercise of the capacity to detect temporal feature F, then the phenomenal content of that state is not richer than the content of RF.

A3: There is a phenomenal state that accompanies the exercise of the capacity to detect temporal feature F.

L: The phenomenal state that accompanies the exercise of the capacity to detect temporal feature F has phenomenal content that is not richer than the content of RF.

A4: If a phenomenal state has content as of time robustly passing, then its content is richer than the content of a phenomenal state that has content of RF.

29. Farr (2020b) thinks so.

C: Therefore, the phenomenal state that accompanies the exercise of the capacity to detect temporal feature F does not have content as of time robustly passing.

A₁ is the assumption of representational modesty.

A₂ is true. The content of a phenomenal state just is its representational content.

The passage illusionist should accept A₃. If it's false, then there is no phenomenal state, and so quite trivially that state does not have content as of robust passage.

L follows from A₁–A₃. C follows from L and A₄.

I will, however, spend some time defending A₄ since considerations raised here are ones to which I return later.

Here is that defence.

I take it that a state represents robust passage only if it represents both that (a) some events are objectively present and (b) which events are objectively present, changes. If a state is to represent robust passage, then it must *at least* represent that some events are objectively present and that which events those are, changes. This is consistent with there being states with richer content than this, which represent robust passage.

I take this to be uncontroversial. Robust passage *just is* the change in which events are objectively present. To be sure, different models of robust passage provide a different characterisation of what it is for some events to be objectively present. Growing block theorists and dropping branches theorists take objective presentness to be reducible. For the growing block theorist, events are objectively present in virtue of lying at the edge of the growing end of the block. On other views, such as many older versions of the moving spotlight view, objective presentness is a primitive property. Still, any view on which there is robust passage is one on which some events are objectively present, and which events those are, changes. So in order to represent robust passage one needs to represent (some way or other) this to be so.

Moreover, it's important to notice that representing the objective present in this sense requires representing certain events *as* objectively present. This is not always the case. Water is H₂O. Consider Socrates. He did not know that water is H₂O. We might think that when Socrates represented water being wet he thereby represented H₂O being wet, even though he did not represent H₂O *as* being wet. I take no stand on whether that is the right thing to say about Socrates and H₂O. But if it is, it is because in fact water is H₂O.

So one possibility is that the passage illusionist might hold that we represent *non-objective* presentness and that in doing so we thereby represent objective presentness. Let's begin by distinguishing two views the illusionist might

have about our representation of presentness. She might hold that we veridically represent *indexical* presentness. That is, she might hold that perceptual experience is tensed: it is part of the content of perception that we represent the event perceived as occurring at the time of the perception (see Peacocke 1999). On this view, when I perceive Freddie sleeping on the couch, my experience represents Freddie as sleeping on the couch *now*.³⁰

Alternatively, the illusionist might think that in some good sense we don't represent presentness at all. Hoerl (2018), for instance, argues that things presented to us in perceptual experience are not presented to us *as* present. What he means by this is that our perceptual experience has no temporal viewpoint.³¹ Whereas our perceptual experiences have a spatial viewpoint—they represent not only the spatial relations between the things that we are seeing, but also represent that we are seeing them from a particular location in space—the same is not true regarding a temporal viewpoint. While we can imagine perceiving the same things with the same spatial relations but from a different spatial viewpoint, we cannot imagine doing so from a different temporal viewpoint. So temporal viewpoint simply doesn't find its way into our experiences at all. As Hoerl puts it, it is not the case that “perceptual experience is best described as presenting us with events *as being present*. On the contrary it is in fact an important feature of the phenomenology of perceptual experience that nothing equivalent to tense features in it” (2018: 145).

Let's take these views in turn. Suppose one thinks that we represent indexical presentness. Then the passage illusionist might try to argue that in representing indexical presentness we thereby represent objective presentness. That is, in representing that some event is indexically present, perhaps we also represent that those events are objectively present, even if we do not represent those events *as* objectively present. For this to be so, however, the relationship between indexical presentness and objective presentness would need to be relevantly like the relationship between water and H₂O.

If our world contained robust passage then perhaps the relationship between indexical and objective presentness *would* be relevantly analogous to that between water and H₂O. Then perhaps in representing some events as indexically present we would also be representing that those events are objectively present. In fact I think even this claim is false. Even in worlds with robust passage I think that indexical presentness comes apart from objective presentness, and so the two are not analogues of water and H₂O. To see this, notice that defenders of the epistemic objection to hybrid A/B theories precisely raise problems for these views because they take it that the indexical present can come apart from the objective

30. Phillips (2014) and Kriegel (2009) endorse something like this view.

31. Arguably, Balashov (2005) has a similar view.

present, and that we therefore cannot know that we are in the objective present (see, e.g., Tallant 2007; Deasy & Tallant in press; Bourne 2002; Braddon-Mitchell 2004). But even if the two cannot come apart, clearly non-dynamists do not think that *actually* the objective present and the indexical present go hand in hand, for they think there is actually no objective present. So it cannot be that in representing indexical presentness one thereby represents objective presentness.

Yet representing that some events are indexically present, and that which events those are, changes, whilst not also representing those events *as* objectively present, is not sufficient to represent robust passage. That is because robust passage consists in more than the movement of an indexical present. If it did not, then non-dynamists would not think that if it seems as though time robustly passes then this is an illusion. It would simply be a veridical representation of the movement of indexical presentness.

Suppose instead, one holds that perceptual experiences are not tensed. So, when I see Freddie sleeping on the couch, the temporal viewpoint of the experience is no part of its content. I simply perceive Freddie sleeping on the couch. Then we might wonder if a change in *which* things I thus perceive, somehow constitutes my representing robust temporal passage.

Sattig (2019a; 2019b) explores a view of this kind, on which our sense of flow or passage is our sense of *replacement* of our perceptual experiences. The idea, very roughly, is that our perceptual experiences as of qualitative change are accompanied by a sense of replacement, and that this sense of replacement is grounded in the representation of replacement in the content of those experiences. That is, our experiences represent not just that things are thus and so, but also represent the ‘replacement’ of experiences with new experiences. Therein lies our sense of flow.

Does this account provide the passage illusionist with what she wants? No. First, while the 2019a version of the view is presented as a version of illusionism, this is not because it is a view on which we have experiences as of robust passage. Rather, it is a version of illusionism because, on that view, it is part of the content of a perceptual experience that *all* of the things we are perceiving occur simultaneously, and, further, that we are experiencing *everything* that is simultaneous.³² But of course, this latter is false, so our experience is illusory.

The 2019b version of the view is not a version of illusionism. It is an account on which even if our world is non-dynamical our experiences are veridical. So in my terminology this is a veridical passage-less account of the target phenomenology. There is no illusion, and hence there is no phenomenology as of robust passage.

32. For the record, I’m pretty sure my perceptual experiences don’t have any such content.

It is easy to see why this is so. Suppose that we simply perceive certain things (like Freddie's sleeping on the couch) and perceive other things (like Freddie's getting up from the couch) and that we represent the latter as occurring after the former. Further, we represent that our experience of the former was *replaced* by our experience of the latter. This representation, however, can be veridical in a non-dynamical world. 'Replacement', in this regard, is not a robustly dynamical notion. Representing such replacement need not involve representing that one objectively present experience replaces another when, as it were, the objective present moves; when which experience is objectively present changes. Rather, all that is required is that at different times we have different experiences, and we represent that these experiences have changed. To put things another way, having perceptual experiences (even untensed ones) and then representing that these change, or are replaced or updated, is not to represent that time robustly passes. So if that is what our target phenomenology consists in, then it does not represent robust passage (as, indeed, Sattig notes).

Now let's return to the thought above. If our world *did* contain robust passage, then one might hold that in detecting this replacement in our experiences we are thereby detecting robust passage, because robust passage is the thing that underlies this change in experience. Fine. Perhaps so; the passage realist might well say this. But the passage illusionist denies that we are in a world with robust passage, so she has no reason to think that even if we do have experiences that represent replacement in this manner, that they thereby have content as of robust passage.

Unsurprisingly, then, if the content of representations that issue from exercising any of the temporal capacities do not have content that is richer than what those capacities detect, (as per representational modesty) and if none of those capacities detect robust passage (as per non-dynamism) then the resulting representations do not have content as of robust passage.

That still leaves open the possibility that we have a state that represents robust passage, and does so by *combining* representations that issue from exercising temporal capacities, where the content of each of those representations, taken singly, is not richer than what the capacities detect.

Now, what do I mean by 'combining' representations here? Obviously it cannot simply be that combination is summation/fusion. We don't have an experience with the content of C and C+ (say) when C and C+ are each experienced outside of a certain short temporal window. I don't want to take a stand, here, on what might make it the case that distinct perceptual contents can be experienced as a single experience (though see Sattig 2019a for discussion of this issue). Moreover, I don't need to take a stand here. The more liberal I am in this regard, the more charitable I am being to my opponent. I am largely going to talk in the

abstract as though any old way of combining perceptual contents can result in a composite representation that can be the content of some perceptual experience. This is certainly false: but the point is that there are *no* ways of combining such contents, given this liberal assumption, then there will be no ways of doing so given less liberal assumptions.

The following argument from representational combinatorialism aims to show that this is so.

Consider two temporal capacities, C_1 and C_2 , to detect temporal features, F_1 and F_2 . Representational modesty says that the content of the representation that issues from exercising C_1 is not richer than F_1 , and *mutatis mutandis* for F_2 . Now suppose that C_1 is the capacity to detect duration (F_1) (of some kind) and C_2 is the capacity to detect temporal order (F_2). In jointly exercising those capacities we have a representation whose content is not richer than a representation of temporal order and duration. So it is very hard to see how that representation *could* be one as of robust passage.

The problem is that it is very difficult to see how any way of combining the representational ingredients that we have, given representational modesty, could be such that combined, there is a representational state with a content as of robust passage, let alone its being the case that that representational state is the content of some perceptual state. The problem is that we seem to have ‘missing’ representational ingredients, because these ingredients don’t include a representation of objective presentness, and any perceptual experience as of robust passage must represent objective presentness.

At this point you might be thinking that it’s no surprise that passage illusionists have embraced representational immodesty. In what follows I offer a similar sort of argument to the one I just offered, but this time I marshal it against a representationally immodest version of passage illusionism.

5. Representational Immodesty and Illusory Content

I do not find representational immodesty very appealing. We have many perceptual mechanisms that allow us to detect things in our environment, and in some environments those mechanisms function to signal the presence of something—a face, a predator, lines of different length—where there is no such thing. Thus we are subject to perceptual illusions. That can hardly be surprising. I find it much more surprising that we would have a mechanism that is evolved to detect a certain feature of our environment, say colour, where the output of that mechanism is a representation with content that is richer than what it detects, say, intrinsic evenly distributed colour properties. So I, at least, take it to be a cost of passage

illusionism if the view is only plausible given representational immodesty. This, however, is not the place to argue against immodesty.

Instead, let us suppose that the passage illusionist is representationally immodest, and hence holds that at least some of the representations that issue from the exercise of some of the temporal capacities are such that their content is richer than the features that those capacities detect. Then there remains the task of showing where the illusory content comes from.

The most obvious place to start, in answering this question, is to consider extant views articulated by passage illusionists. To that end, let's return to Dainton (2012) and Paul (2010). Their idea, recall, is that in perceiving motion and change we have experiences with *dynamical* content that is richer than the content associated with the detection of motion and change. What, though, is this additional immodest content? Well in part, what motivates such views is the idea that it does not simply seem to us in experience as though we see a series of static images of objects either located at different places (motion) or having different properties at different times (change). Rather, we see things *move* and *change*, and seeing this is seeing something over and above what we in fact detect.

Now, I don't think it's obvious that in order to make sense of our phenomenology of motion/change we need to think that our representations of those phenomena are immodest: that they attribute to the world some dynamical property that is not there. But suppose we do. Can we get from this to the idea that we have experiences as of robust passage? Not obviously. To be sure, we get to say that our perceptual experiences have a sort of *dynamical quality* to them, and that this quality is illusory. But it is not really very plausible that that content is one as of robust passage. To see this, suppose our world is non-dynamical. It contains moving things, which is to say that it contains things that are located at different places at different times. In perceiving such things, though, we perceive those things as moving, rather than simply as being in different places at different times. Likewise, when we perceive change we perceive things as changing, rather than just perceiving things as being one way at one time, and a different way at a different time. Whatever *exactly* the (immodest) content of this perception of motion and change is meant to be, it doesn't seem to involve there being a metaphysically privileged present which changes. Whatever the additional immodest content is, in this case, it is very unclear that that content is as of robust passage.

Quite generally, it seems that what is missing in this story, and indeed what was missing from the story offered by the friend of modesty, is the presence of a representation of objective presentness. Why does a representation of robust passage need to involve a representation of objective presentness? Robust passage is the change in which events are objectively present. It is not, for instance,

the mere change in which events are subjectively, or perspectively, present. Even those who reject robust passage think that in some good sense there is a change in which events are *subjectively* present. So if it is true that we have perceptual experiences that represent robust passage, as opposed to representing something else (such as anodyne passage that can obtain in non-dynamical worlds) then it must be that the experience in question represents the movement of objective presentness.

It seems clear that associated with the exercise of temporal capacities we have modest (or indeed immodest) representations of *change, motion* and either *indexical presentness* or what we might call *simple presentness* (where this is just what we have when we have untensed perceptions, or perceptions with no temporal viewpoint). And while some of these might be illusory (if Paul and Dainton are to be believed regarding motion/change) they are not sufficient to explain why it seems to us as though time robustly passes, as opposed to its merely seeming to us as though things move and change. So these views are better thought of as views that are more similar to that of Prosser, on which the target phenomenology is one whose content is (at least in part) illusory, but where the content of that illusion is not a representation of robust passage, but rather, is some *other* non-veridical content.

This, of course, is no help to the *passage* illusionist. If what I have said so far is right, then the passage illusionist needs to explain how and why it is that, singly or jointly, the exercise of the temporal capacities issues in an immodest representation of objective presentness (and its movement).

I'm unclear how such a story would proceed. I can see how we might go about telling that story in the case of colour immodesty.

We have perceptual mechanisms for detecting things in our environment. As it turns out, it is often the case that the properties we detect are intrinsic to the objects in question. Moreover, sometimes even when they are not intrinsic, for all practical purposes we can treat them as though they are. Consider for instance weight. Weight is not intrinsic. But we can treat it as such given that we are all Earth bound. Colour is the same.

It surely matters to organisms whether properties can be treated as intrinsic or should be treated as extrinsic. If gravity varied a good deal across local regions of the earth, organisms would need to treat weight as extrinsic. So we'd expect mechanisms to detect whether a property can reliably be treated as intrinsic or extrinsic, and to label it as intrinsic where the answer is yes, and as extrinsic otherwise. So when a property can reliably be treated as intrinsic we might expect it to be represented as intrinsic.

Since we can reliably treat colour as intrinsic this could explain why our colour detection mechanism represents colours as intrinsic (if indeed they do). *Mutatis mutandis* for weight.

It's a good deal harder to imagine why any mechanism that detects temporal capacities would come to represent objective presentness. Neither a representation of indexical presentness (if we have one) nor of simple presentness (if we have one) is a representation of *objective* presentness. We have already seen that if we represent simple presentness, and we represent that our experiences are 'replaced' (as per Sattig's suggestion) then we get a veridical passage-less view. In order to 'upgrade' that view to a view on which we represent robust passage, then, it needs to be not only that we, say, have perceptual experiences and that these have no temporal viewpoint, and that we represent that these experiences undergo replacement, but, in addition, it needs to be that we represent (in some manner or other) that these perceptual experiences are metaphysically special in some way, for instance by being the only experiences there are, *simpliciter*. The same is true, *mutatis mutandis*, of indexical presentness.

Why, though, would we represent objective presentness (given that there is no such thing in a non-dynamical world)? It's hard to imagine that we would. Representing objective presentness is conceptually complex. It requires representing that certain events are metaphysically special by having some property (primitive or otherwise) that all other events lack. We could represent this by representing that present events are the *only* events that exist. This requires representing that there are events that did, or will, exist, but which do not exist. (Notice that simply having perceptual experiences that lack a viewpoint is not sufficient for this). Or we could represent this by representing that all events exist, but that some have a primitive property of presentness. These representations, however, are pretty sophisticated.

By contrast, in order to represent that some events are indexically present one only needs to represent that those events occur at *this* time, or *with me now*. One does not need to represent past or future events, let alone to represent either that those events did exist, (or will exist) but do not, or that they do exist but lack some special property. Likewise, in order to represent that things are simply present, one just needs to perceptually represent some things.

Given the conceptual complexity of representing objective presentness, and the fact that we gain nothing by doing so, it's hard to see why any of our temporal mechanisms would immodestly represent objective presentness.

The unlikelihood of this is particularly striking when you consider that the target phenomenology is taken to be pervasive. This strongly suggests that the mechanisms responsible for that phenomenology will be relatively low-level sub-personal mechanisms that function autonomously and continuously without personal-level monitoring.

In turn, it seems very likely that such mechanisms will be found in creatures with reasonably sophisticated perceptual systems. Low-level mechanisms are typically shared across species. Moreover, we know that many animals keep

track of time, and *inter alia*, are able to judge duration.³³ So it is likely that the mechanisms that subserve the capacities whose exercise is associated with the target phenomenology in humans will be shared across other species. I find it independently plausible that the target phenomenology is one that is found across a range of species. I would be astonished if Annie the labradoodle does not have the target phenomenology.

But if it struck you as doubtful that the exercise of any of the temporal mechanisms in humans is associated with an immodest representation of objective presentness, it should strike you as even more doubtful that this is so in dogs, pigs, and sugar gliders. Annie the labradoodle is quite sophisticated in a lot of ways. I am, however, quite confident that she does not represent objective presentness. This gives me reason to think that neither do you or I.

What might the friend of passage illusionism say at this point? Well, she might protest that we do have reason to treat present events as objectively present in the sense that we can reliably treat it as an objective matter whether or not two events really do occur at the same time, and hence whether they really are present (indexically or simply). That is because none of us is travelling sufficiently fast relative to anyone else that the sorts of relativities in temporal orderings that we see at high speeds (and which are captured by special relativity) are made manifest. So it makes good sense for our detection mechanisms to treat it as an objective matter whether two events are simultaneous.

So there may be a story about how we would come to have a certain kind of immodest representation: namely, a story about why a mechanism that detects simultaneity could issue in a representation that is richer than a representation of simultaneity by being a representation of *objective* simultaneity.

But even if that is so (and it's far from obvious it is) representing that some events are objectively simultaneous is not sufficient to represent objective presentness. A world can contain objective simultaneity without thereby containing objective presentness. Had our world been a Newtonian block universe world it would have been a world in which there is a single preferred foliation of space-time into time-like and space-like slices, such that there is a fact of the matter regarding whether two events really are simultaneous. In such a world simultaneity is objective. But there is no robust passage since none of the time-like slices is singled out as being the one true present. Hence there is no objective presentness that moves. So representing that some events are objectively simultaneous is not to represent that some events are objectively present. Even if the passage

33. Capacities to judge durations, for instance, have been found in bumblebees (Boisvert & Sherry 2006), wasps (Schmidt & Pak 1991), fish (Higa & Simm 2004), hummingbirds (Henderson, Hurly, Bateson, & Healy 2006), hens (Taylor, Haskell, Appleby, & Waran 2002), pigeons (Roberts, Cheng, & Cohen 1989), turtledoves (Lejeune & Richelle 1982), rats (Roberts 1981) and possums (Sargisson, Lockhart, McEwan, & Bizo 2016).

illusionist can tell a story on which we perceptually represent certain events as *objectively* simultaneous (as opposed to merely representing *that they occur at the same time*, which would appear to require having the conceptual resources to represent that events can be merely *subjectively* simultaneous, and I am sceptical that this is so) and, further, we represent those events as either indexically or simply present, and, further, we represent that those very perceptual experiences are replaced with new ones, this *still* does not constitute our representing robust passage.

So here is where we are. Even if the passage illusionist embraces representational immodesty, I do not think she has a plausible story about how we come to have experiences that represent robust passage, even if she has a plausible story about how we come to have experiences with *some* illusory content. If that is right, then even with representational immodesty on the table we should reject passage illusionism. The burden, then, is on the passage illusionist to provide some account of why the various immodest contents that she posits are both (a) plausibly the product of the mechanisms in question and (b) really do issue, singly or jointly, in a phenomenal state that represents robust passage. In the absence of such an account we should think that most likely we do not have a state with phenomenal content as of robust passage. This leaves open that we might have a state with some other illusory content, or that we might have a state with veridical content; it also leaves open whether the veridical content in question is 'thin' and deflationary, or instead in some way answers to the description of being dynamical or flowy, despite not having content as of robust passage (and despite being veridical in a non-dynamical world.)

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