Temporal Passage: Dynamic Experiences and the B-theory

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Abstract

I take the problem presented by McTaggart (1908) and by more recent A-theorists to be that the B-theory cannot account for our experience of change in virtue of not accepting temporal passage. Accordingly, the goal of my thesis is to show that the B-theorist can account for our experience, whether or not they think that time really passes. I begin with a discussion of tensed language and, specifically, the claim levelled against B-theorists that they cannot even account for our use of tensed language or our holding of tensed beliefs. That is, the problem is meant to be that B-theorists cannot account for the true meaning of tensed sentences because they do not accept that there are any tensed propositions. I argue that the B-theorist is equipped with two plausible solutions. They can either hold that tensed sentences are context-sensitive - i.e. are used differently to tenseless ones depending on the time at which they are uttered, or they can hold that the content of a belief is really a property – i.e. a world, a time, and an individual.

However, I argue that just an account of tensed language does not get the B-theorist out of trouble. They still need an account of why it is that we use tensed sentences – that is, they need an account of our tensed experience or what I call our experience of phenomenal temporal passage. Then, in the next chapter, I provide a projectivist account for the B-theorist who thinks that we have illusory perceptions of this phenomenal experience as existing mind-independently. The view is that we project our experience of phenomenal temporal passage onto the world and have the illusory perception that phenomenal temporal passage exists mind-independently.

I argue that projectivism adequately accounts for our experience of phenomenal passage. However, the view will only be appealing to theorists who are willing to accept that we are subject to massive illusion. Accordingly, I will explore views according to which our

experience of passage is just part of experiencing mind-independent features or properties. These B-passage views identify temporal passage as some part of the mind-independent B-theoretic structure (e.g. causal order or the existence of times). I argue that, while these views provide good accounts of temporal passage on the B-theory, I think that we need an account of, not only temporal passage on the B-theory, but also of our experience of phenomenal temporal passage. Specifically, I think we need a view according to which our experience is an expected outcome of mind-independent features.

I think dispositionalism achieves this. Dispositionalism is the view according to which temporal passage is a mind-independent disposition to result in our experience of phenomenal temporal passage. In the thesis, I will explain why I think dispositionalists can account for phenomenal temporal passage as an expected outcome of mind-independent features and is, therefore, the more intuitive view. However, I will conclude that each of the views discussed adequately accounts for our experience – they differ only in what they accept in order to do so.

Thesis Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree. I give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time.

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Signature:

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I dedicate this thesis to my late grandfather, Jan Glonek.

Chapter 1 – Introduction

1.1: McTaggart

Over one hundred years ago J. M. E. McTaggart argued 'that neither time as a whole, nor the A series and B series, really exist' (1908, p. 32). Despite the fact that his conclusion is not accepted today, he is often thought to be responsible for the manner in which the literature in the philosophy of time is divided. For this reason, I will be following in the footsteps of many others in my use of McTaggart's arguments to motivate the overall topic of my thesis. In this introductory chapter, I will begin with a discussion of McTaggart's famous argument that time does not exist. I will argue that his argument is, at its core, about temporal passage.

I will then explain why this leaves the A-theorist and the B-theorist in the position of having to account for our experience of temporal passage. This, of course, involves explaining how our experience is related to external temporal features. That is, both the A-theorist and the B-theorist must provide an account of what our experience is explained by. I will, therefore, briefly discuss my use of the explanation relation. I will then discuss why the focus of my thesis is not the A-theoretic responses to the problem of passage, before discussing the different B-theoretic options. Finally, I will explain the part that each section of my thesis plays in my overall conclusion.

McTaggart argues that times can be distinguished in two ways. The A-series, which distinguishes times in terms of whether they are past, present or future, and the B-series, which distinguishes times by whether they are earlier or later than other times.[1] Assuming this, McTaggart's argument is as follows:

[1] McTaggart also identified a third time series, the C-series. On the C-series, times are ordered but this order is not based on anything in particular – i.e. times have no direction with the C-series alone. This is distinguished from the B-series, where times are ordered based on whether they are earlier or later than other times. McTaggart thinks that we only get a B-series and, thus a direction of time, when we have the A-series, coupled

P1: Time does not exist without change.

P2: The A-series includes change.

P3: The B-series does not include change.

C1: Time does not exist without the A-series.

P4: The A-series in inherently contradictory.

C2: Therefore, time does not include the A-series.

CONCLUSION: Time does not exist.

There is clearly a lot to unpack here, as the premises do not seem to be automatically convincing. McTaggart argues that 'a universe in which nothing whatever changed (including the thoughts of the conscious beings in it) would be a timeless universe' (McTaggart 1908, p. 459). He doesn't go into much detail on this point but just assumes it. I will pretty well be doing the same thing, as, just as the point of McTaggart's paper was not to evaluate whether time could exist without change, the point of my thesis is not to evaluate whether time involves change. Like McTaggart, I will assume that something like this is the case.[2] That is, I will assume that change is needed for time.

However, unlike McTaggart, I do not think that change must involve the properties of the A-series. McTaggart argues that the B-series alone cannot account for change. He says that this is because change requires an objective fact about how things are, contrasted with how things used to be or will be. But the B-theory gives us many different times, the contents of which are all equally real – i.e. the objective facts about how things are, on the B-theory, are

with the C-series. Today, B-theorists deny that we need any objective A-series in order to posit the existence of a temporal direction of earlier than and later than. Thus, I leave any discussion of the C-series to one side.

[2] Despite the fact that the assumption that time involves change is pervasive in the literature, there are those who argue that time would exist even without change. See Shoemaker (1969) for an argument that there could be periods of time without change.

permanent. For example, suppose that t_1 is earlier than t_2 and that t_3 is later than both t_1 and t_2. Even if we suppose that there are different events occurring at each of the times, it does not seem as though the B-series can account for the *change* that brought about these differences. This is because t_1 was and will always be earlier than t_2 and t_3 was and will always be later than both t_1 and t_2. That is, it does not seem that the relations on the B-series can explain variation in how things are across times. Because B-theorists hold that the contents of t_1 make up the objective facts about how things are at one time, while the contents of t_2 make up the objective facts about things are at another time, it seems that all that the B-series can say about each of the times is that they are earlier or later than other times. The B-series can only distinguish between times using these permanent relations and these permanent relations cannot be used to account for change, says McTaggart (1908, p. 460).

Change only exists, argues McTaggart, within the A-series. That is, times change in their A-properties – pastness, presentness, and futurity – based on whether how things are at a time is how things are objectively. That is, t_1 gets to be future when the contents of t_1 make up the objective facts about what will be – i.e. because t_1 will be present. Then t_1 gets to be present when the contents of t_1 make up the objective facts about how things are. And t_1 gets to be past when the contents of the time make up the objective facts about what was – i.e. because t_1 used to be present. For example, suppose that t_1 is future t_2 is present and t_3 is past. On the A-series, t_3 was future and was present – it became past, as the fact of the matter about which A-properties it had *changed.* Likewise, that t_2 is present is only true for a moment as the A-property it has will also change – i.e. it will become past. This change in A-properties is change itself, says McTaggart (1908, p. 461).

However, he thinks that there really is no change and, therefore, no time because the A-series is inherently contradictory. As already explained, the A-series can be used to distinguish times from other times based on whether they are past, present or future. Every time

will, successively, be in possession of all the A-properties. That is, at one time t_1 will be future, at another time it will be present, and at another time it will be past. But then this means that each time has all three incompatible properties (pastness, presentness, and futurity), and of course one thing cannot be in possession of incompatible properties. This can be solved, of course, by emphasising that it is not that one time has all three incompatible A-properties at *one time.* Rather, the properties are held by times *successively*. That is, t_1 *was* future, *is* present, and *will be* past.

However, according to McTaggart, this is no solution, as it involves a vicious circle. This is because it assumes the existence of the A-series in order to explain the A-series. As we have already seen, McTaggart thinks that time only exists within the A-series. This, coupled with the assumption that the A-properties aren't acceptable primitives (so they must be explained to be used), means that, effectively, time is assumed in order to account for time. To see how the vicious circle complaint is meant to go let us suppose, again, that t_1 was future, is present, and will be past. Following this, at a time when t_0 is present, t_1 is future. At a time when t_1 is present, t_1 is (of course) present. At a time when t_2 is present, t_1 is past. That is, when we say that 't_0 will be present' we mean that it *is presently* future, and when we say that 't_0 was present' we mean that it *is presently* past. But this invokes presentness in order to account for a time to be past or future. That is, we need to invoke the A-properties in order to explain the A-properties. And this means that the A-properties must be assumed in order to explain A-properties. This, says McTaggart, is a vicious circle (1908, p. 468).

Put another way, McTaggart says that this same issue – the A-series lacking an explanation – can be seen as a vicious infinite regress. To see why, let us ignore circularity problems and assume that t_1 is present, was future, and will be past. McTaggart thinks that this invokes a second time series in order to explain the first. However, the times that are used to explain the initial moment of time would also require further explanation. But these further

explanations would be of the same format as that used to explain the original moment of time, which would ultimately create an endless regress of times that could never be completely explained, as each explanation would only create another series in need of explanation.

To see how this is meant to work let's start with the time when t_1 is present. According to that time series, as already stated, t_1 is present, was future, and will be past. In order to explain what it is for t_1 to be present, then, we can answer that t_1 is present now because it was future and now the future has come to pass. But this just invokes another time series because t_1 was future only because t_0 was present. That is, the property of presentness we were trying to explain recurs in the supposed explanation.

Likewise, then, to explain what it is for the times in the other time series that are invoked to be present – e.g. the moment of future time, t_2 – we can only provide the same sort of explanation. That is, we can say that t_2 is present in virtue of the fact that it is future at some moment of past time, t_1, and past at some moment of future time, t_3. But once again, this invokes another time series also in need of explanation. It seems, then, that we cannot completely explain what it is for a time to be past at one time, present at another time, and future at another time, as our explanations of the presentness of one time always end up making use of the earlier presentness of some other time. That is, our explanations always invoke another series with the same A-properties, so we never get a reductive explanation in which presentness does not feature. It is an infinite regress of explanations (McTaggart 1908, p. 469). The A-series, says McTaggart, is inherently contradictory. And, because, as we saw, he also shows that time cannot exist within the B-series alone, he concludes that time itself does not exist.

1.2: Contemporary Perspectives on McTaggart

I don't know of anyone who accepts McTaggart's argument in full today. However, the two main rival theories that exist today, the A-theory and the B-theory, stem from the A-series

and the B-series. Although there are many reasons to be an A-theorist and many reasons to be a B-theorist that do not stem from McTaggart's argument, there are those on both camps who accept parts of McTaggart's argument. For example, many A-theorists accept that time cannot exist within the B-series alone but deny that the A-series is inherently contradictory. Similarly, there are B-theorists who accept that McTaggart was right to think that the A-series is inherently contradictory, but wrong to think that time cannot exist within the B-series alone. I will briefly discuss each of these views in turn.

There are many grounds for the A-theorist to reject that the A-series is inherently contradictory. I will discuss just one of these grounds – that the A-series is circular and does involve a regress but that this is not problematic. In *The Moving Spotlight: An Essay on Time and Ontology* (2014) Ross P. Cameron explains why he thinks that the argument that the A-series involves a vicious circle fails. This is because the presupposition that the A-series could exist is a necessary one to hold when attempting to explain how the A-series can be formulated in a way that is not contradictory. That is, 'there is nothing dialectically inappropriate in McTaggart's opponent appealing to the A-properties of things when attempting to demonstrate the consistency of the claim that things have A-properties' (Cameron 2014, p. 58).

In order to illustrate why this is, it is useful to conceive of the argument against the A-series contradiction as including two conclusions. That is, the conclusion of the specific argument (that the A-series is not contradictory) is not being presupposed before it is established as that is what is being explained. The explanation would only be contradictory if the specific conclusion were presupposed, and it is not. That is, an argument that presupposed the conclusion 'the A-series is not contradictory' would look something like this:

P1: The A-series does not include a contradiction.

CONCLUSION: Therefore, the A-series is not inherently contradictory.

This is clearly circular and not at all what the argument even McTaggart himself gives on behalf of adherents of the A-series. What is being assumed is not that the A-series doesn't include a contradiction, it is simply the existence of the A-series that is assumed in order to show that the A-series is not contradictory. And that's not circular. That is, it is only the conclusion of the more general argument (that the A-series exists) that is being presupposed in order to prove the conclusion of the specific argument (that the A-series is not contradictory). This argument looks something like this:

ASSUMPTION: The A-series exists.

P1: Each time has each of the A-properties (pastness, presentness, and futurity).

P2: Each of the A-properties are incompatible with one another.

C1: Therefore, no time can have all of the A-properties at the same time.

P3: The A-properties are had by times in succession – no time has all the A-properties at one time.

CONCLUSION: Therefore, the A-series is not contradictory.

This argument is not circular, as the conclusion is not presupposed. McTaggart is only correct in that the existence of the A-series is being presupposed in the argument. This presupposition is not problematic, though, as its existence must be presupposed in order to demonstrate that it is not contradictory. Once it is shown not to be contradictory, its existence can be shown to be possible.

Cameron also points out that the existence of a regress is not actually a problem for the A-series. This is because Cameron argues that the A-series regress is benign, rather than vicious. He says that:

> *In a benign regress, all that is happening is that the world presents you with infinitely many puzzles, where solving one puzzle points to another. What's wrong with that? Every puzzle gets solved, it is simply that answering one question raises the next. In a vicious regress, however, no puzzle ever gets solved, because the success of each solution relies crucially on the solving of the next puzzle, and so there is always a promise of a solution, but the promise is always postponed and never realized*. (Cameron 2014, p. 62).

This is partly because Cameron believes that McTaggart's assumption, that there must be a non-A-theoretic way of describing the A-series or, as was similarly noted earlier, that there must be a reductive explanation of presentness before it can be used successfully, is incorrect. For example, arguing that a moment of present time, t_3, is not future at the same time as it is present but instead is future at a moment of past time, t_2, solves the contradiction. The second level problem then becomes how that moment of past time, t_2, can also be present and future. The answer is that it is not all of these at the same time but is present at a moment of past time, t_1, future at an even further past moment, t_0, and past at a moment of future time, t_3. The second level properties are then adequately solved just as the first level ones were. All that this results in is an infinite number of questions about every moment of time that can be, because the contradiction present in each of the levels of time is solved without depending on the solution to the next level, adequately answered.

If Cameron is right – if the A-series isn't inherently contradictory – then it seems as though it is not irrational to accept the A-theory. But what of modern reworkings of McTaggart? They may give us reason to think that the A-series is contradictory, or at least unlikely, even if we reject McTaggart's initial argument. In *McTaggart and the Truth about Time* (2002) Heather Dyke puts forward her own version of McTaggart's argument that the A-series is inherently contradictory. Dyke's McTaggartian argument more obviously concerns

the A-series' inability to account for A-theoretic change – i.e. temporal passage. She argues that:

> *to suppose that the A-series is real requires commitment to two theses. Firstly, one must hold that there is a real, observer-independent distinction between past, present and future. Secondly, one must hold that different distributions of past, present and future obtain at different times. But it seems that one cannot hold both of these theses. Marking the objective distinction between past, present and future requires leaving A-series change out of one's account because one can only distinguish between past, present and future at a particular moment of time. Holding the second thesis, that the distribution of pastness, presentness and futurity changes from moment to moment, involves relinquishing our grip on the first thesis, that there is an objective distinction between past, present and future. As the distribution between A-properties changes the distinction between them collapses, since they all apply to everything. The entire account thus collapses under the weight of this contradiction.* (Dyke 2002, p. 143).

This amounts to the claim that the contradiction inherent in the A-series is not one that is actually about an infinite regress of time series, as McTaggart thought. However, McTaggart was right that there is a problem with the A-series' ability to distinguish between the A-properties using only the A-properties themselves. For example, let us suppose that t_0 is past, t_1 is present and t_2 is future. I can use the fact that these times have the specific A-properties that they each have in order to distinguish the A-properties from one another. That is, I can explain what it is to be past, present and future by using the times that have these A-properties. I can say that the past is different from the present and future because t_0 is past, while t_1 and t_2 are not. I can also say that the present is different from the past and future because t_1 is present while t_0 and t_2 are not. Likewise, I can say that the future is different from the present and past because t_2 is future, while t_0 and t_1 are not.

So, the A-properties can be distinguished from the perspective of one present moment, t_1. This is good so far. However, the A-series is also meant to account for change. The A-property that a given time has is meant to change. For example, suppose that time has passed and t_1 is no longer present, but t_2. We can say that the A-properties are distinguished from one another because t_2 is present and not future or past, t_3 is future and not present or past, and t_1 is past and not present or future. But this isn't informative. We just saw that, from the perspective of the previous present moment, t_1, that t_2 was future. But t_2 can't be present and future at the same time.[3]

It seems, then, that distinguishing between the A-properties from the perspective of one time only provides an explanation of the differences between the past, present, and future *from the perspective of that time*. That is, we can distinguish the A-properties from one another based on the times that they apply to. But if we want to know what the *objective* – i.e. not from the perspective of one time – distinction is between the A-properties then it seems the A-series is not all that is needed to provide an answer. The A-properties, after all, are had by all the times at varying times, so we cannot use those times to distinguish between the A-properties objectively.

If Dyke is right, and I think she is, then it seems that the contradiction within the A-series is really reflective of problems with accounting for temporal passage. Furthermore, if we take this to be the basis of McTaggart's initial problem with the A-series then we should take it to be the problem in the whole of McTaggart's paper. That is, McTaggart's argument for the unreality of time is really one for the unreality of *temporal passage*. This, I think, can be seen in McTaggart's arguments against the A-series and the B-series. We have already seen, from Dyke, that the A-series contradiction really comes down to a problem about distinguishing

[3] Something like this interpretation of McTaggart's contradiction problem is also noted in Smith (2002).

between A-properties, as well as accounting for change in those properties. This is clearly a problem about accounting for the passage of time. Similarly, recall that McTaggart's argument against the B-series runs as follows:

P1: Time must include change.

P2: Genuine change involves change in the properties that times have.

P3: The properties of times don't change on the B-series.

CONCLUSION: The B-series alone cannot account for change.

Following this, McTaggart argues that the A-series and, therefore, A-series change is required for genuine change to exist. This genuine change – i.e. temporal passage – is not possible on the B-series and, according to McTaggart, is necessary for time. So, it seems that, while proponents of the A-series – A-theorists – are left with the task of providing an account of temporal passage that is not contradictory, proponents of the B-series – B-theorists – must deny that temporal passage (at least in this A-theoretic sense) exists and hold that it is not necessary for time.

1.3: Our Experience

However, this seems to leave the B-theorist with the task of accounting for our experience that time passes in a way that the B-theoretic ontology really doesn't predict. For example, when I am watching episode after episode of some television show or other and I am not aware of the time, it still *feels* to me as though time has passed. And by this, I mean not only that it occurs to me that change has occurred after some amount of time but also that it feels to me that time has been passing, that I have been experiencing this change as it has been occurring. The A-theorist, who has worked out any contradiction problem inherent in the A-

series, can answer that I am aware of the present moment t_1 gradually moving into the past and being replaced with a new present moment, t_2, and so on with other times.

That is, they can hold that our experience of passage is an exact representation of the way passage exists outside of experience. On the other hand, the B-theoretic ontology does not, at face value, seem equipped with the resources needed to explain what is going on in such an example. It cannot just be that events at t_1 are different to those at t_2 because, while that accounts for there having been some *change,* it does not account for why that change feels so dynamic in experience.

The B-theorist, then, is left with roughly two options if they are wanting to take our experience seriously. They can be error-theorists about passage experience – that is, they can hold that our experience as of passage really is just our experience of non-dynamic temporal features and the fact that our experience feels dynamic or passage-like to us is illusory. Alternatively, the B-theorist can hold that our experience is non-illusory, as our more dynamic experience is just part of what it is to experience the mind-independent temporal features. In both cases, it is clear that the B-theorist who wants to account for our experience of passage needs some kind of explanatory relation in order to account for our experience and the features that prompt that experience.

1.4: Explaining Our Experience

The B-theorist, then, is looking for an explanation of how our experience (as) of passage arises from the B-theoretic facts, whether or not they take those B-theoretic facts to suffice for the real existence of mind-independent temporal passage. The kind of explanation that is sought would be akin to the explanation of our experience of an object as being in motion that we offer when we think that the fundamental facts involve merely the object being at various places at various times, with no irreducible instantaneous states of motion in the physics. So, we can

either think that the 'at-at' theory is realist about motion, or we can think that it is an error-theory (e.g., because we think that Zeno had the right idea that motion would have to be a basic instantaneous property if there were any)[4]. In any case, the explanation of our experience should begin with the facts about where objects are from time to time, the successive registering of those facts in our retina, and the psychological processes that lead us to integrate those experiences of successive positions into an experience of motion. The B-theorist's explanation of our experience (as) of passage is an explanation in exactly the same sense, and might even share some common elements with the explanation of our experience of motion.

This kind of explanatory story is exactly the sense in which I will use 'explanation' throughout this thesis. That is, I will explain the link between mind-independent features (temporal reality) and mental or mind-dependent features (temporal experience). I assume that the relation between temporal experience and temporal reality must involve some causal components (whereby some cause, in some sense 'brings about' some other temporal property), since perception must involve some element of casual connection.[5] However, this is not to say that I think our experience only involves causal elements.

In fact, I accept that it may also involve some non-causal constitutive (in the sense that certain temporal properties are part of or identical with some other temporal properties)[6] or grounding elements (in the sense that certain temporal properties may be metaphysically grounded in more fundamental temporal properties).[7] Take, again, the explanation of motion experience. An adequate explanation of motion experience requires some causal facts about our perceptual apparatus, but it also requires some position to be taken on whether the 'at-at'

[4] See Salmon (1977) and Priest (1985) for more information about the debate about instantaneous velocities.
[5] See Paul and Hall (2013) for more information about causation.
[6] See Baker (2002) and Zimmerman (2005) for more information about constitution.
[7] See Schaffer (2009), Raven (2012), and Jenkins (2011) for more information about grounding.

distribution (of objects at places at times) either is, or is not, necessary and sufficient for motion – whether that distribution grounds the facts about motion, in other words.

I will remain neutral with respect to the preferred basic explanatory relations. Some parts of the explanation of our temporal experience will be clearly causal; for example, those elements of the explanation which involve our interaction with our external environment. Some parts will be broadly constitutive and non-causal. I will not be attempting to delineate precisely how these explanations work; that is a question for experimental psychology, in many cases. Nor will I take a position on which of the many candidate non-causal explanatory relations is involved. So, for example, I will not be attempting to adjudicate whether grounding or constitution or some other relation is the 'best' one to feature in such explanations. That said, I will give, in a couple of places, some explanations that are suggestive or indicative of the way that a dynamic temporal experience might arise on the B-theory theory (e.g. in sections 3.7 and 4.5). My aim is to simply give a satisfactory account of how temporal experience arises, what its content is, and whether or not it is veridical. As such, remaining ecumenical about which specific explanatory relations should be favoured is, I think, essential to the task of providing a satisfactory *explanation* of our temporal experience.[8]

1.5: Overview of Thesis

Using the explanation relation throughout my thesis, then, I will begin chapter 2 with a problem case for the B-theorist. That is, having set up McTaggart's problem as a problem about temporal passage, I will look at a more modern problem – the problem of tensed sentences and tensed beliefs – for the B-theorist and determine whether the B-theorist has an adequate solution. In short, the problem is that the A-theorist seems to be able to account for our use of tensed language in sentences such as 'Nixon is president', while the B-theorist seems not to be

[8] See Ruben (2012) for discussions of explanation and scientific explanation.

able to provide an adequate account of such expressions. The B-theorist is equipped, I argue, with a couple of adequate solutions to the problem. However, I will also argue that the B-theorist is still in need of an adequate account of the problem of tensed experience – that is, they still need to provide an account of why it seems to us that reality is tensed. Providing an account of tensed experience, then, is the core focus of my thesis.

As already mentioned, the B-theorist has the option of holding that our experience is an illusion or of holding that it is not. In chapter 3, then, I will provide an account of our tensed experience on behalf of the B-theorist who thinks that our tensed experience is not caused by any mind-independent temporal passage, in the form of projectivism. Projectivism is the view whereby we project our experience onto the world and have the illusion that features of that experience exist mind-independently, as the cause of our experience. Then, in chapter 4, I will discuss the options available to the B-theorist who does not think we are subject to massive illusion. In that chapter, I will argue that a dispositional explanation of our experience – one according to which our experience of passage is just part and parcel of our experience of B-theoretic features and a disposition to result in our experience – should be favoured by B-theorists who do not think there is any illusion in experience. Further, because I show that both the illusionist B-theorist and the anti-illusionist B-theorist can account for our experience in a satisfactory manner, I conclude that there is no reason not to prefer the B-theory to the A-theory.

Chapter 2 – Problems about Tensed Language

2.1: Preamble

In the introductory chapter I said that the core of my thesis is concerned with providing an account of our tensed experience that is compatible with the B-theory. This is true of my thesis as a whole. However, that is not the focus of this chapter. In this chapter, my aim is to examine and set aside objections to the B-theory based on how the theory can deal with our use of tensed language. If the B-theory cannot adequately deal with our use of tensed language then it seems likely that the theory is false. A-theorists think that the B-theory cannot account for our use of tensed language in a satisfactory way because they[9] deny that reality itself is tensed. However, in this chapter I will show that the B-theory can explain our use of tensed language even with its denial of tense at the ontological level.

2.2: Natural Language Tense

As I mentioned in the introduction, the A-theory is supposed to be the more intuitive theory of time. On the view, at the very least, there is a privileged present – i.e. an objective now. For this reason, the A-theory is sometimes called 'the tenseless theory of time'. This makes sense as, with the A-theorist's acceptance of A-properties (at the very least, privileged presentness, but also pastness, and futurity for some A-theorists), it seems as though our use of tensed expressions can be accounted for. That is, a tensed sentence, such as 'I'm cold', is said, by the A-theorist, to be expressive of the same proposition on every occasion of use, so that the same proposition is true at some times and false at other times. This is because the truth or falsity of a proposition changes, on the A-theory, as time passes. Propositions are the meanings of the sentences we use. Different sentences expressed by us, then, may express the same

[9] See Dyke (2003) for an argument against the A-theoretic claim that reality must be tensed if tensed language is ineliminable.

proposition. For example, the English sentence ‘cheese is tasty’ expresses the same proposition, or meaning, as the French sentence ‘le fromage est savoureux’. Propositions, then, are merely what is preserved when you translate from one expression of them to another.

Commonly, propositions are thought to be represented by possible worlds.[10] Possible worlds are possible universes. Sets of possible worlds are maximally consistent universes that represent the way things could have been. For example, that ‘Scott Morrison could have lost the Australian Federal election in 2019’ is represented by a possible world where Scott Morrison did in fact lose the election. But there are many ways the world could have been. Scott Morrison could have lost the election because nobody voted for him – that seems possible. Scott Morrison could also have lost the election because some people voted for him but not enough to result in his being elected – that also seems possible. There are, presumably, a number of these possibilities that have slight differences but where Scott Morrison lost the election. It seems, then, that ‘Scott Morrison could have lost the Australian Federal election in 2019’ is not merely represented by one possible world but is represented by a set of possible worlds – i.e. the set of possible worlds where it is true that ‘Scott Morrison lost the Australian Federal election in 2019’.

Of the example ‘I’m cold’, then, the A-theorist can say that the sentence includes a tensed expression (the present tense ‘am’ in ‘I’m’) because it really expresses a tensed proposition. That is, they can say that the proposition expressed by ‘I’m cold’ is true when the time at which I am cold is present, and false if it is said when the time at which I am cold is not present. But, given that the A-theorist holds that there are tensed propositions, it does not seem that a mere set of possible worlds is enough to capture the tensed nature of the proposition.

[10] Commonly, but not solely. See Russell (1903) and Meyer (2016) for views whereby propositions are not possible worlds.

That is, presumably, if propositions vary from time to time within a world, we need a set of ⟨world, time⟩ pairs, not just a set of worlds, to represent a tensed proposition. Following this, then, the A-theorist can say that a tensed proposition, such as 'I'm cold', is true in world w_1 and at time t_1 because the proposition is represented by possible world w_1 and time t_1 within that world – i.e. it is true that I am cold at that world and that time. The tensed proposition, then, simply could not be true at t_2 because the proposition expressed by 'I'm cold' is not represented by time t_2 – i.e. it is just not true that 'I'm cold' at t_2. Tensed propositions, then, are true at some worlds and times and false at others. Or so says the A-theorist.

If the A-theorist's analysis of tensed sentences is correct then it does not seem like the B-theory is a viable option. Specifically, one may wonder how the B-theorist could deal with tensed sentences – sentences that appear to express propositions with changing truth values, such as 'I'm cold'. Recall that B-theorists hold that reality is tenseless, which, as I have already said means that the B-theorist denies the existence of A-properties (the past, present, and future). This tenseless reality to which the B-theorist subscribes also means that the B-theorist only accepts tenseless or unchanging truth conditions for propositions. This would be fine if it weren't for the fact that we use sentences that, at the very least, appear to express tensed propositions. For example, it seems to me that, when I say 'I'm cold' at one time, and say 'I'm cold' at another time, I'm saying the same thing, truly in one case and falsely in the other. That is, it seems that what I'm saying (the proposition) varies in truth value as time passes. But then what I'm saying (the proposition) must be the same and must vary in truth value.

As we saw, the A-theorist is able to accommodate this use of tensed sentences. They can say that the proposition expressed by 'I'm cold' is true at this present moment and ceases to be true once another moment becomes present, as time passes. The B-theorist, due to their denial of the A-properties, cannot provide this answer. But that does not mean they cannot accommodate our use of tensed language in some other way, or so I will argue. In fact, in the

following section I will attempt to show that the A-theorist is not so much better equipped to account for our use of tense than the B-theorist.

2.3: Temporalism versus Eternalism

In the above section, I explained why the A-theorist has a seemingly more readily available explanation of why it is that we use tensed language. That is, they can say that, when we use tensed language in sentences such as 'I'm cold', we express a tensed proposition – i.e. we express a single proposition with changing truth values. For example, the proposition I express when I utter the tensed sentence 'I'm cold' is one that is true at one time and false at others. This seems like an intuitive explanation of what is going on, given the way I have describe the phenomenon so far. However, upon closer inspection, specifically in relation to our beliefs about such propositions, the view seems less intuitive. That is, it seems strange to hold that propositions have changing truth values, when it doesn't seem as though our beliefs about those propositions change. This way of looking at the problem has parallels in Mark Richard's 1981 argument against temporalism and for eternalism in regards to tensed language. Accordingly, I will open this section with a discussion of Richard's argument and then explain what the view means for us.

Suppose it is 1970 and you believe the proposition 'Nixon is president' is true. On all accounts it seems as though this is correct – that is, it seems as though 'Nixon is president' is true. Now suppose it is 1975. Nothing has changed about Nixon being president at the time the proposition was initially believed. That is, it is still the case that, in 1970, 'Nixon is president' could be truthfully uttered. In 1975, it doesn't seem like the *sentence* 'Nixon is president' could be truthfully uttered, but should that change anything about the proposition?

Temporalists think it should. Temporalism is the view that propositions change in truth value over time. That is, they hold that a single proposition is expressed by 'Nixon is president'

(assuming ‘Nixon’ refers to the same individual and ‘president’ means president of the United States) and that proposition is true at certain times and false at others. This, says the temporalist, is why we can truthfully utter ‘Nixon is president’ in 1970 and why we cannot in 1975.

Conversely, the eternalist thinks that propositions do not change truth values over time. That is, they hold that, relative to a time, utterances express eternal propositions. This means that, to use Richard’s same example, the proposition expressed by ‘Nixon is president’ in 1970 is different to the proposition expressed by the same sentence ‘Nixon is president’ in 1975. And in fact, when explained like this, it seems like eternalism makes more intuitive sense. Especially when thought of in terms of our beliefs. Suppose, again, that you believe the proposition ‘Nixon is president’ to be true in 1970. Do you really change your belief in 1975? You still think that it is true that, in 1970, Nixon was president. And you still think that, if it were 1970, the sentence ‘Nixon is president’ could be truthfully uttered.

Put another way, suppose that, in 1970, you said ‘Nixon is up to no good in the White House’. You believed that then, and it seems that you still believe that now. Here the ‘that’ clearly picks out the same proposition as was expressed in 1970, it just cannot be expressed by a current use of ‘Nixon is up to no good in the White House’. It seems more intuitive, then, to think that the proposition remains the same and that it just cannot be expressed using the same sentence. That is to say that the sentences ‘Nixon is president’ or ‘Nixon is up to no good in the White House’, when said at the right time, really express propositions something like ‘Nixon is president between 1970 and 1974’ and ‘Nixon is up to no good in the White House between 1970 and 1974’. And you retain the belief that such propositions are true even when Nixon is no longer president or up to no good in the White House at the time. Eternalism, then, says Richard, gives the more intuitive answer in regards to our beliefs about propositions (1981, pp. 3-6).

2.3.1: Temporalism and the A-theory, Eternalism and the B-theory

As B-theorists, if we assume Richard's thoughts are correct, we can use the fact that eternalism is more intuitive to our advantage. I think it is fairly clear that A-theorists are temporalists, as they hold that our use of tensed language is exemplary of tensed reality. That is, they think that the facts really are changing over time and that, accordingly, the truth values of propositions are changing over time also. B-theorists, then, are eternalists, as on the B-theory all the facts (the truth or falsity of propositions) already exist.[11] The proposition expressed by 'Nixon is president' in 1970 is and always will be either true or false. Given our discussion of Richard's thoughts above, then, it seems like the B-theorist has the more intuitive answer. The B-theorist does not have to say that our beliefs about propositions are constantly changing, as they can hold that, if I believed the proposition 'Nixon is president' in 1970, I can still believe that same proposition now. What changes, then, is the language I use to express that proposition. So, the B-theorist needs an account of why it is that our language seems to express tensed propositions.

I've already hinted at the account given by the eternalist. Recall that, on eternalism, propositions are eternally true, relative to a time. This is akin to context-sensitive or contextualist accounts of indexicals. For example, an indexical like 'I' is context-sensitive because the proposition it expresses depends on the utterer. That is, there is no one thing that 'I' means – no one proposition expressed by 'I'. The meaning of 'I' – i.e. the proposition it expresses – depends on the context in which it is uttered. When I utter a sentence containing 'I' it refers to me, Brigitte. That is, the proposition that is expressed by the same sentence, 'I', depends on the utterer. It is used differently in the sentence depending on who the utterer is.

[11] However, note that Zimmerman (2005) disagrees with this way of distinguishing the A-theory from the B-theory.

When someone else utters the same expression, 'I', they do not express a proposition that refers to me, they refer to themselves.

A-theorists, of course, do not think that tensed expressions are context-sensitive in this manner. They think that the proposition expressed by tensed sentences is also tensed. We saw this with the case of 'Nixon is president', as the A-theorist holds that the proposition expressed by such a sentence changes in truth value over time. This means that, on the A-theory, a tenseless version of 'Nixon is president', such as 'Nixon is president in 1970', is not actually equivalent in meaning – i.e. does not actually express the same proposition. But, if this is true, how is the B-theorist supposed to make sense of tensed expressions when reality itself is supposed to be tenseless?

One answer is that we should treat tensed expressions in the same way we treat the indexical 'I'. We can say that tensed expressions are context-sensitive – they are used differently depending on the context of utterance. For example, the B-theorist can say that the tensed expression 'is' in the sentence 'Nixon is president' is used to express a different proposition, depending on what the time is when the sentence is uttered. So, the same sentence 'Nixon is president' expresses different propositions depending on the time at which it is said – i.e. the context. That is, 'Nixon is president' when uttered in 1970 expresses the proposition 'Nixon is president in 1970' and, when uttered in 1975, expresses the proposition 'Nixon is president in 1975'. We then get the result that the former proposition is true, while the latter is false. Propositions are true or false simpliciter, then. We just cannot use the same sentences to express those propositions at all times, as tensed expressions are context-sensitive.

2.4: Situating Context-Sensitivity within Old and New B-theory

While context-sensitivity is a perfectly legitimate account of tensed sentences, it has not always been the path taken by B-theorists. In this section, then, I will situate the above view

within debates that exist between B-theorists about tensed sentences. I will begin with an explanation of the old B-theory and the new B-theory. I will then explain that, if the context-sensitive view discussed in the previous section has to be classified as either old or new B-theory, it should be considered a version of the new B-theory.

Traditionally, B-theorists have attempted to solve the problem of our use of tensed expressions by offering translations. That is, B-theorists have traditionally held that tensed expressions, such as 'I'm working now', are directly translatable, without loss of meaning, into tenseless expressions, such as 'I work at time t_1'. This view is sometimes called the old B-theory. The old B-theory involves holding that there are no tensed propositions – that what we express with a tensed sentence like 'I'm working now' is a tenseless proposition. But this is not all. The old B-theory also involves holding that, because there are only tenseless propositions, we don't even express any tensed sentences. That is, when we think we utter a tensed expression, like 'I'm working now', we are actually uttering a tenseless one because it expresses a tenseless proposition – i.e. such propositions and sentences are merely seemingly tensed. It is because there are no tensed propositions or expressions, then, that the old B-theorist thinks that what we think of as tensed expressions really are synonymous with tenseless ones.

Some old B-theorists[12] think that seemingly tensed expressions are synonymous with expressions that explicitly include a date – for example, 'I work at 2:03pm on July 2, 2020'. But this seems to not account for cases where we do not know the date that we are referring to. In light of this, others[13] subscribe to a token-reflexive explanation and think that seemingly tensed expressions are synonymous with expressions that refer to the utterance itself – for example, 'I work at the time of this utterance'. But this seems like a problem for cases where we do not actually utter the seemingly tensed expression. Perhaps in light of this, some other

[12] See Smith (1994)
[13] See Smart (1949)

B-theorists subscribe to a similar token-reflexive explanation but think that seemingly tensed expressions are synonymous with tenseless expressions (whether they are said aloud or not) that refer to the thought itself. So, for example, something like 'I work at the time of this thought' is synonymous with 'I'm working now' on this view (Orilia & Oaklander 2015, p. 8).

Regardless of which specific version of the old B-theory one subscribes to, it has been thought that the old B-theory does not adequately account for the fact that we do think seemingly tensed expressions are tensed.[14] That is, the theory does not explain why, if seemingly tensed expressions really are tenseless, we think and talk as though they are. In light of such criticisms, new B-theorists offer a much simpler account of what is going on.

New B-theorists hold that some of our sentences seem tensed because they really are.[15] That is, new B-theorists hold that some of our sentences and some of our sentence tokens (a single utterance of a sentence) are tensed and express tensed propositions. However, reality is still tenseless on the view because these tensed sentence tokens have tenseless truth conditions. This is the claim that, for example, the proposition expressed by 'it is now raining' is tensed because our use of tensed expressions is ineliminable, as we could not express the same proposition using tenseless expressions – i.e. 'it rains at time t_1' just does not express the same proposition as 'it is now raining'. That is, the new B-theorist says that different uses of 'it is now raining' have something in common in their meaning, an essential use of 'now', even though the truth-conditions are tenseless.

This is very similar to claims made about indexicals. That is, the claim that even though there are no irreducibly egocentric facts – facts whereby 'I' really does refer to only one individual – there are ineliminable uses of indexicals.[16] The new B-theorist, then, denies the

[14] See Smith (2002) for objections to the old B-theory.
[15] See Dyke (2002) for arguments in favour of the new B-theory.
[16] This claim is made about indexicals in Perry (1979).

synonymity claim that old B-theorists accept. That is, the new B-theorist does not think that tensed expressions are synonymous with tenseless expressions precisely because they express different propositions – i.e. the tensed sentence expresses a tensed proposition and the tenseless sentence expresses a tenseless proposition (Dyke 2002, p. 330).

There are at least two versions of the new B-theory. They differ in how they provide tenseless truth conditions for tensed sentence tokens. According to the token-reflexive version, a token utterance (or thought), such as 'I'm working now' is true if and only if the utterance or thought is simultaneous with the person in question working. According to the date version, a token utterance (or thought), such as 'I'm working now' is true at time t_1 if and only if the person in question is working at time t_1. On both the token-reflexive and date versions of the new B-theory, the proposition and sentence type are not the bearers of truth or falsity, it is the sentence token that can be said to be true or false. This assumption, then, allows the new B-theorist to hold that the proposition expressed by a token utterance of a sentence is tensed. However, we can still say that reality itself is tenseless because the bearers of truth conditions, the token sentences, are made true by tenseless facts.

Further, as already mentioned, this allows the new B-theorist to distinguish between tensed expressions and tenseless ones. The new B-theorist can say that, although tensed sentence tokens, such as 'I am working now' are tensed and express tensed propositions, they are made true by tenseless facts. Such examples, then, cannot be synonymous with tenseless sentence tokens, such as 'I work at 2:03pm on July 2, 2020' or 'I work at the time of this utterance', because tenseless sentence tokens, while they may be made true by the same tenseless facts, express tensed propositions. The tensed and tenseless sentence tokens, then, express different propositions and cannot, therefore, be synonymous.

2.4.1: Demystifying the Debate between Old and New

But does this even make any sense? It seems natural to suppose that the expressions of tenseless propositions – the token sentences – also have tenseless truth conditions. And if this is the case, it seems like the token sentences that express tenseless propositions would have the same truth conditions as the token sentences that express tensed propositions. But if this is true, I am not sure what ensures that some token sentences express tensed propositions and that some do not, when their respective token sentences have the same tenseless truth conditions. After all, if we continue to assume that propositions can be represented as possible worlds – i.e. have tenseless truth conditions – it seems like both the tensed token sentence and the tenseless token sentence could be uttered at exactly the same possible worlds. It follows, then, that they express the same proposition.

In 'Truth-Conditions, Truth-Bearers and the New B-theory of Time' (2009) Stephan Torre demystifies some of this literature. I will not go into detail about his argument but I will mention some of his more pertinent claims. He argues that much of the dispute between different kinds of new B-theorists is owed to a lack of clarity about just what the bearers of truth are. That is, he thinks that it is not made clear whether the different versions of the new B-theory should be aiming to provide truth conditions for the propositions expressed by token utterances (what Torre calls p-truth-conditions) or only for the token utterances themselves (what Torre calls t-truth-conditions). That is,

> *oftentimes, participants in the debate over the token-reflexive theory and the date theory will speak of providing necessary and sufficient conditions for the truth of a token, and it is unclear whether they have in mind t-truth-conditions or p-truth-conditions.* (Torre 2009, p. 329).

In light of this, Torre argues that there are true formulations of both the date and token-reflexive versions of the new B-theory. He argues that the version of the token-reflexive theory that is true only succeeds in providing truth conditions for the token sentences themselves, while the version of the date theory that is true succeeds only in providing truth conditions for the propositions expressed by the token sentences. If true, this means that the versions of the new B-theory should not be considered in opposition to one another. They merely provide different information. While this could give the new B-theorist reason to conjure some hybrid view of the date version and the token-reflexive version, Torre argues that this is not a worthwhile pursuit. Instead, he says that:

> *the fact that tensed sentence types are not true or false simpliciter, but rather true at some times and false at others, should not motivate a move towards taking truth and falsity of tensed sentences to be properties of their tokens. Rather, the B-theorist should evaluate sentence types in a context.* (Torre 2009, p. 343).

2.4.2: Context-Sensitivity. Old or New B-theory?

It seems fairly obvious that a context-sensitive account of tensed expressions is not a version of the old B-theory. It is an essential part of the old B-theory that tensed sentence types and tokens are synonymous with and thus translatable into tenseless sentences. The context-sensitive account denies this synonymity claim. Tensed sentences are true in some contexts and false in others, on the context-sensitive account, so they cannot be synonymous with tenseless sentences. But, if something like Torre's assessment of the new B-theory is correct, then it seems like the context-sensitive account is a version of the new B-theory. The new B-theory, after all, also denies this synonymity claim. However, there are, I think, key differences between the contextualist account and the new B-theory.

Recall that the context-sensitive account sketched earlier involves holding that the correct use of tensed expressions depends on the context of utterance, in a way that is not the case for tenseless expressions that express the same proposition. So, for example, the tensed sentence 'I'm working now' expresses the same proposition as the tenseless sentence 'I work at 2:03pm on July 2, 2020'. However, unlike on the new B-theory, the tensed sentence token doesn't get to be tensed by having different truth conditions to the tenseless one. Instead, it is the tensed sentence type, coupled with the context of utterance that makes the token sentence tensed. For example, the sentence type 'I'm working now' could be uttered truly at any time. A token utterance of that sentence type 'I'm working now' – i.e. an instance of the sentence type uttered at a particular time – gets to be tensed because it is a token utterance of the sentence type and because it is uttered at a particular time. This is how sentence tokens get to be true at some times and false at others – their use is dependent on the context in which they appear.

The difference between the new B-theory and the context-sensitive account, then, is simply that where the new B-theorist holds that tense is a property of a sentence tokens, the contextualist holds that sentence tokens are only tensed due to the sentence type and the context in which they are uttered. That is, the new B-theorist thinks that there is a role for the character or type of a tensed sentence in understanding the proposition that is expressed. For example, we believe something different when we believe 'it is now raining' and 'it is raining on September 4, 2020', even though the truth conditions are the same. So, they think the proposition role is played not by the tenseless truth conditions, but by something more temporal.[17]

[17] Similarly, Lewis (1979) argues that these kinds of tensed thoughts are best regarded as property self-ascriptions, not located us in the space of possible worlds as propositions are, but in the space of possible individuals (time-slices). So, Lewis thinks part of the proposition-role is played by properties as objects of belief, even though he is a B-theorist who thinks no proposition varies in truth value over time. I will go into more detail about this account in section 2.5.1.

On the other hand, the contextualist thinks that the meaning of a sentence is its truth conditions, which are given based on the proposition expressed by a tensed sentence at a context. The contextualist, then, denies that the indexical appears in the contents at all, and so sees no use for tensed propositions. Accordingly, while both the new B-theorist and the contextualist denies that the bearers of truth and falsity (sentence tokens for the new B-theorist, and propositions and a context for the contextualist) are tensed, the new B-theorist is focused on providing tenseless truth conditions for sentence tokens, while the contextualist is focused on the context in which a sentence token is uttered.

For these reasons, then, if the context-sensitive account must be labelled as either an old or new B-theory, it should be labelled as a version of the new B-theory. The reader can feel free to do this if they are attached to the literature between old and new. I, however, think that it is more appropriate to think of the context-sensitive account in its own right. It, after all, has the same focus as neither the old B-theory nor the new B-theory.

2.5: A Problem for Tensed Belief

I think I have shown that context-sensitivity is a good account of tensed sentences, in the same way it is a good account of indexicals, like 'I'. However, one could object that even if we accept that indexicals and tensed expressions are context-sensitive, one may think that it still seems like we need to know more information about the context to know the meaning than we ordinarily think we need to. That is, it might be thought that we could meaningfully utter 'I' without knowing who we are and it seems like we could meaningfully utter 'Nixon is president' without knowing what the time is. But if we can meaningfully use these expressions without having correct beliefs about the propositions they express – i.e. without knowing the context – it might seem like the context alone doesn't tell us enough about propositions.

That is, one might think that we are missing something about what propositions are. In this section I will briefly explain this thought, using John Perry's (1979) argument for the position that indexicals, such as 'I' and 'now', are essential. I will then argue that this is not a problem for the context-sensitive account of such expressions. I will, therefore, conclude that the B-theorist can rest assured that they can provide an adequate account of our use of tense in natural language and our beliefs about propositions expressed using tensed language.

> *I once followed a trail of sugar on a supermarket floor, pushing my cart down the aisle on one side of a tall counter and back the aisle on the other, seeking the shopper with the torn sack to tell him he was making a mess. With each trip around the counter, the trail became thicker. But I seemed unable to catch up. Finally it dawned on me. I was the shopper I was trying to catch.* (Perry 1979, p. 3).

This example is supposed to illustrate how our use of indexicals poses a problem for certain accounts of belief. It is supposed to show that a context-sensitive account of 'I' is not enough to capture the entire meaning of the proposition. Let us suppose that, in the example above, Perry has some kind of amnesia. He does not know his name. He can perfectly reasonably use the indexical 'I' but he does not think that 'I' refers to 'Perry' as he does not know that he is Perry. Let us further suppose, then, that Perry comes to learn the name of the sugar spiller. The P.A. system in the supermarket sounds 'Perry, you are spilling the sugar'. A context-sensitive account would have it so that, in the context of the example above, the proposition expressed by 'I am spilling the sugar' is equivalent in meaning to the proposition expressed by 'Perry is spilling the sugar'. But how could this be? Perry knows that 'Perry is spilling the sugar' is true, he just doesn't know that Perry refers to himself. This seems to indicate that 'Perry' and 'I' are not equivalent in meaning, even in the right context where 'I' is being used to refer to the same person that 'Perry' is used to refer to.

Similarly, for tensed expressions, it seems like we can use them meaningfully without knowing the entire context. That is, it seems like our beliefs about any given context could be wrong even when we use tensed sentences to express a true proposition. This kind of problem is highlighted for the case of tense, again, by Perry and also by Arthur Prior. I'll begin with Perry's case.

In his same paper 'The Problem of the Essential Indexical' (1979) Perry discusses the temporal case. Specifically, he explains how the same problem applies to the tensed expression 'now' when he says that:

> *a professor, who desires to attend the department meeting on time, and believes correctly that it begins at noon, sits motionless in his office at that time. Suddenly he begins to move. What explains his action? A change in belief. He believed all along that the department meeting starts at noon; he came to believe, as he would have put it, that it starts now.* (1979, p. 4).

Like we saw with the case of the indexical 'I', it seems that the tensed utterance of 'now' means something different to the tenseless version 'noon'. If correct, this is problematic for any context-sensitive account of tensed expressions. Recall that a context-sensitive analysis of the tensed use of the expression 'now' says that the expression is used differently depending on the context in which it is uttered. So, for example, when uttered at the correct time 'now' should refer to 'noon'. That is, ordinarily, when we utter the expression 'now' we mean the time it is when we utter 'now', regardless of whether or not we know what the time is.

But if this is true then it seems like 'now' expresses the same proposition as whatever the time is when it is uttered – e.g. 'noon'. And if this is the case then it seems like the professor should have been prompted to go to the meeting all along. That is, the professor knew already that the meeting started at noon and this knowledge did not prompt him to go to the meeting.

He was only prompted to go to the meeting when he realised that the meeting was also starting ‘now’. So, it seems like ‘the meeting starts now’ expresses a different proposition to ‘the meeting starts at noon’. By extension, then, it seems like tensed expressions are not equivalent in meaning to tenseless ones. That is, it does not seem like we express the same proposition when we use tensed language as when we use tenseless language.

Similarly, in his 1959 paper ‘Thank Goodness that’s Over’, Prior argues that a tensed sentence, such as ‘thank goodness that’s over’, just could not express the same proposition as tenseless translations. That is, he says that ‘thank goodness that’s over’:

> *certainly doesn't mean the same as, e.g. "Thank goodness the date of the conclusion of that thing is Friday, June 15, 1954", even if it be said then. (Nor, for that matter, does it mean "Thank goodness the conclusion of that thing is contemporaneous with this utterance". Why should anyone thank goodness for that?).* (Prior 1959, p. 17).

That is, suppose we accept that ‘that’s over’ and some dated or token reflexive expression, such as ‘the date of the conclusion of that thing is Friday, June 15, 1954’ or ‘the conclusion of that thing is contemporaneous with this utterance’, express the same proposition. We can, as already explained, subscribe to a context-sensitive account to explain why it is that we use tensed expressions differently to tenseless ones that express the same proposition. This works for the tensed sentence ‘that’s over’. We can say that we do not use ‘that’s over’ at all the times that we use tenseless sentences that express the same proposition because the tensed nature of ‘that’s over’ means that it can only be said in some contexts of utterance. For it to make sense to say that the event in question is ‘over’, the utterance needs to be said at a time when the event is no longer occurring. I think it’s clear that I am in favour of this account of tensed expressions.

However, argues Prior, this context-sensitive solution does not explain why it is that we do not have certain beliefs at some times and not at others. That is, we know, following the context-sensitive account, that it does not make sense to utter 'thank goodness that's over' before the conclusion of the event in question because the tensed part of the sentence can only be used in some contexts and, because of this, we simply would not believe that the event is 'over'.

However, this does not explain why we would not believe the same things about tenseless sentences as we do about tensed sentences that express the same proposition. That is, why we should not believe that the event is 'over' just based on the tenseless sentence. After all, tenseless sentences are not supposed to be context-sensitive. For example, the tenseless sentences 'the date of the conclusion of that thing is Friday, June 15, 1954' or 'the conclusion of that thing is contemporaneous with this utterance' can be uttered in all contexts. It is true at all times that the event in question is non-existent at that specific date or at the time of that specific utterance.

But if it makes sense to utter these tenseless expressions at all times, shouldn't we have whatever emotion or belief we have about the tensed sentence about the tenseless sentence? Shouldn't we feel relieved or thankful about the tenseless sentences at all times? At the very least it seems like we should believe that the event is 'over' based on the sentences 'the date of the conclusion of that thing' being 'Friday, June 15, 1954' or 'the conclusion of that thing is contemporaneous with this utterance' at the same time as we believe the event is 'over' based on the tensed sentence.

But it does not seem like we do, says Prior. Far from having the emotion of relief about the tenseless sentence at the same times that we have the emotion of relief about the tensed sentence that expresses the same proposition, we do not have attitudes about tenseless

sentences even at all. That is, Prior points out that nobody would be thankful for an event concluding at some dated time or at the same time as their utterance. That just doesn't make sense. What I am thankful for, when I utter 'thank goodness that's over', is the event really being over. I am thankful for something tensed and not for something tenseless. But how could this be? Put another way:

> *Suppose after a painful experience I remark 'thank goodness that's over!' If tenseless facts exhausted reality, then the facts after the experience would be the same as the facts before the experience, so the argument goes; thus it would not be clear what I was thanking goodness for. I am clearly not thanking goodness for the fact that the painful experience is over on 20 October 1998, at 5.23 p.m., for I might know beforehand the exact date and time when the pain will cease, but I will not then thank goodness for anything.* (Sider 2001, p. 18).

Both Perry and Prior show, then, that just context-sensitivity does not account for our tensed beliefs. That is, in Perry's case, it seems that we come to believe something different when we realise that 'the meeting starts now' than we do with 'the meeting starts at noon'. And, in Prior's case, it seems that we come to believe something different when we believe that 'the event is over' than with 'the conclusion of that thing is contemporaneous with this utterance'. But if this is the case then it doesn't seem like tensed sentences do express tenseless propositions.

2.5.1: A Kaplanian Solution to the Problem of Tensed Beliefs

If the above problem about tensed beliefs is correct, the B-theory is in trouble. Luckily, there are a couple of solutions. I will begin with a discussion of David Kaplan's solution for the indexical 'I' and then apply that same solution to tensed expressions.[18] I will then discuss

[18] Note that the solution is similar to that provided by Perry (1979) himself – i.e. the thought that belief is a relation between an eternal proposition, a believer, and a Fregean mode of presentation.

Lewis' account of centred worlds and explain how it also solves our problem. In a sense, the different solutions arise based on disagreement about what a proposition is. The Kaplanian will think that propositions represent how things are, but they will hold that we can come to believe propositions in different ways. On the other hand, while the Lewisian will also think that propositions represent how things are, they will think that the objects of our attitudes are not merely propositions. The solutions, then, really involve an acceptance of different assumptions about the nature of propositions.[19] Given that, for our purposes, all that matters is that there is some solution about the problem of tensed beliefs, I will not argue for either solution over the other.

Recall that the problem with the indexical 'I' is that we can meaningfully utter the expression and not know who 'I' refers to. In the case of Perry, the amnesiac, then, the issue isn't that 'Perry' and 'I' refer to different things. Perry is himself so when he says 'I' he does mean to talk of whoever he is. He just lacks knowledge of the fact that who he refers to when he utters 'I' is Perry. Following David Kaplan (1989) the contextualist can hold that, although 'I' and 'Perry' express the same proposition in the context above, we can come to believe the same proposition in different ways. This is sometimes called the character or type of a proposition. That is, a character is a feature of a sentence that goes into determining a propositional content. A belief, then, is a product of propositional character and content. So, the proposition expressed by the sentence 'I am spilling the sugar' may be the same as the proposition expressed by 'Perry is spilling the sugar'. That is, we can say that they all express the same proposition, as they are true in exactly the same contexts.

[19] The reader should consult Zimmerman (2005) for a good explanation of these different views about propositions. And also, Stalnaker (2010), where it is argued that we can adopt a non-Fregean conception of belief as a purely propositional attitude by assuming that there is a one-one correspondence between possible worlds and centred worlds (in effect, the view an adaptation of Lewis' solution).

We can say, then, that the reason Perry can believe one of the sentences and not the others despite them expressing the same proposition is because he only believes that a certain character about that proposition is true. That is, he can believe that 'Perry is spilling the sugar' is true because all that he knows of the proposition is that there is somebody named Perry and that that person is spilling the sugar. However, because he does not believe the same proposition under the character that makes him the person responsible for spilling the sugar, Perry fails to recognise that the sentence he does believe is equivalent in meaning to the sentence 'I am spilling the sugar'.[20]

For our case of tensed expressions, then, the contextualist can continue to hold that 'now' is a context-sensitive expression. That is, they can hold that 'now' is used slightly differently than 'noon' (or whatever time 'now' refers to in a specific context) despite being an expression of the same proposition. Further, for problem cases like the one presented by Perry, where it seems as though we can know one expression of the same proposition but not the other, we can appeal to the different characters or types of the proposition. We can say that, although 'the meeting starts now' and 'the meeting starts at noon' express the same proposition, the professor knows only one character of the proposition. That is, the professor does not know all that there is to be known about the context of the context-sensitive expression. The professor, initially, only knows the character expressed by 'the meeting starts at noon'. Later, he comes to know the other character of the same proposition when he realises 'the meeting starts now'. He realises that 'now' and 'noon' express the same proposition because the time is noon *now*.

It seems, then, that something like this context-sensitive account of tensed expressions is perfectly fine. Moreover, the fact that this account works means that the B-theorist need not

[20] See Cappelen and Dever (2013) for more detailed information on such views.

accept that tensed or A-theoretic expressions, such as ‘now’, express tensed propositions. In fact, it seems as though the B-theorist can hold that there are only tenseless propositions.

2.5.2: A Lewisian Solution to the Problem of Tensed Beliefs

Another solution involves holding that the contents of attitudes, like belief, are not propositions but are, instead, properties. This is David Lewis’ 1979 argument. I will explain his view and conclude this section by saying that both Kaplan and Lewis succeed in solving the problem of tensed beliefs.

In *Attitudes De Dicto and De Se* (1979) Lewis argues against the view that the content of our attitudes are propositions. Recall that propositions are sets of possible worlds. So, if the content of my attitude is a proposition, then the content of my attitude is a set of possible worlds. This makes intuitive sense. When we want to know whether a proposition is true we need to know whether our world is one of the worlds in the set of worlds where that proposition is true. Likewise, when we want to know whether I have attitude *x* or attitude *y* we need to know whether our world is a part of the set of worlds where I have attitude *x* or whether our world is part of the set of worlds where I have attitude *y*.

However, Lewis thinks that there are some cases where attitudes cannot be adequately explained if all they are is propositions. To be clear, Lewis thinks that in all cases where an adequate explanation of what is going on is that the content of attitudes are propositions, holding that the content of attitudes are properties also works. And, more importantly, cases where an adequate explanation of what is going on isn’t given by those who think that the content of attitudes are propositions, holding that the content of attitudes are properties *does* provide adequate explanations of what is going on.

To see why this is the case I should first explain what Lewis thinks a property is. For Lewis, a property is a set of possible beings, rather than worlds (Lewis 1979, p. 515). That is,

when I have an attitude about something, I do more than just determine that I am in one of many possible worlds where the proposition I have some attitude about holds. Lewis argues that I also locate myself within 'a region of logical space' (Lewis 1979, p. 518). That is to say, I locate myself within a possible world, a spatial location within that possible world, a temporal location within that possible world, and I locate myself as a particular individual within that possible world. When I have a particular attitude, for example when I believe some proposition, I have the property of being in a particular world, at a particular time and being a particular individual – i.e. a set of ⟨world, time, individual⟩ triples.[21] This is sometimes called a 'centred world' – that is, not just a possible world but a perspective within that possible world (Liao 2012, p. 301).

For example, suppose there are two omniscient Gods who inhabit a world. They are omniscient, so they know exactly which world they are in and they know every true proposition within their world. God_1 lives on the tallest mountain within their world and God_2 lives on the coldest mountain within their world. Neither God_1 nor God_2 knows whether they are on the tallest mountain or the coldest mountain. It seems, then, that neither God knows who they are. They both know all the true propositions of their world. For example, they both know that the propositions 'this world contains a God on the tallest mountain' and 'this world contains God on the coldest mountain' are both true. And they both know that they are one of the Gods who inhabit this world. What is it that they come to know when they discover who they are? Lewis argues that it couldn't be a proposition, i.e. a set of possible worlds, as they already know all the propositions that are true at their world.

[21] Lewis talks of possible individuals in terms of 'time-slices'. This particular way of putting my self-locating beliefs is related to Lewis' belief that the way objects persist through time is to perdure, so that, just as I have spatial parts that are divided across space, I also have temporal parts that are divided across time (hence 'time-slice'). For more information about perdurantism, see Noonan (1980) and Lewis (1986). For more information about the persistence literature generally see Effingham (2012).

When, for example, God_1 comes to know that he is the God on the tallest mountain, he doesn't come to know a new proposition. Instead, he comes to know that *he* has a specific property. That is, he comes to know that he has the property of being a particular individual, at a particular time, at a particular location – he comes to know which centred world at which he is located. The content of his attitude of knowledge (knowing who he is), then, cannot be merely propositional. This would only provide him with the information that God_2 also had – i.e. which possible world they were part of. In order to know who he is, then, it seems that God_1 needs to locate himself at a centred world. And this is only explained if the content of his attitude is a property, and not just a proposition (Lewis 1979, pp. 520-521).

So, this is a case where propositions alone would not account for the attitude, so it seems likely that the content of attitudes are properties and not propositions. This is fine for the particular problem Lewis is engaged with. However, I have not yet made it clear why some may think that Lewis' framework can be used to solve our problem about our changing attitudes about certain propositions. Lewis actually explicitly refers to Prior's 'thank goodness that's over' problem. I will now discuss his solution to the problem.

> *As I write this, I know that next Wednesday evening I will be done with graduate admissions for the year. Afterwards I'll go home and sit down by the fire, and I'll think "Thank goodness that's over!" I will be content. There is something - namely, for that to be over - that I want now and will still want then, and I will then take it that I have what I want. What is this thing - a proposition? No. My contented time-slice will not be especially pleased about inhabiting a world where the chore of graduate admissions goes on at certain times and not at others.* (Lewis 1979, p. 530).

What he wants, says Lewis, is to be located at a particular time, not just at a particular world. That is, there are other time-slices in the same world who are not yet glad that the

unpleasant task is over, even if the proposition 'thank goodness that's over' is true in their world. He is only content, then, when he has the property of being a particular time-slice; in particular, a time-slice that is located at a time after graduate admissions have been reviewed. And this is not explained if the content of Lewis' attitude is a proposition, as that only locates himself within a set of possible worlds. What does explain his attitude (of desire for the event to be over and relief once the event is over) is his being located as a particular individual, at a particular time. That is, his changing attitudes are only explained if the content of attitudes are properties, and not propositions (Lewis 1979, p. 531).

If Lewis is correct that the content of attitudes are properties and not possible worlds, then the B-theorist is not in trouble. They can accept that reality is tenseless. They can also accept that tensed sentences are irreducible parts of natural language but that tensed sentences express tenseless propositions. Then, in answer to the 'thank goodness that's over' problem, they can say that the tensed part of the sentence, 'that's over' expresses a tenseless proposition. They can then also say that our belief or attitude about the proposition – i.e. us being thankful that the event 'is over' – expresses an attitude and not a proposition. And attitudes can only be represented as properties, not possible worlds. This allows the B-theorist to account for why it is that our attitudes appear tensed when in fact reality is still tenseless. The B-theorist can rest easy, then. They have two adequate answers to both our use of tensed expressions and our use of tensed beliefs.

2.6: Why Do We Feel as Though Reality is Tensed?

In the previous sections I showed that the problem about our tensed beliefs can be solved using either Kaplan's context-sensitivity or Lewis' framework. However, I still think the B-theorist needs to explain more. That is, I think more needs to be said about why it is that we use tensed sentences when reality itself is tenseless. This is not the problem of whether

there are tensed propositions, as we already assume that there aren't. Instead, this is the problem of why things appear to be changing – changing in a way that makes the use of tensed rather than tenseless sentences seem appropriate. That is, the problem is supposed to be that the B-theorist cannot account for our intuitions about things just seeming to be changing (Skow 2015, p. 228). This is the problem of our experience of tense. I will open this section with a discussion of the problem at hand before arguing that the B-theory needs an account of our experience if this problem is to be solved.

Although he ultimately provides a B-theoretic response to the problem, D. H. Mellor in *Real Time II* (1998) takes Prior's argument to be one that is really about our seemingly A-theoretic experience and not just about our language use. In particular, Mellor argues that the problem is one that is about the B-theorist's supposed inability to account for our experience of the present moment. That is, the A-theoretic story is that when we utter the tensed sentence 'that's over' we are really saying something about what is present and what is past. The event in question, the painful experience, for example, is 'over' because it has moved into the past. Further, it is also 'over' because the time of my utterance or thought about the event being 'over' is in the present. The B-theory, of course, denies that such A-properties exist in any objective sense and so clearly cannot provide such an answer (Mellor 1998, p. 40-41).

If this were all that this interpretation of Prior's problem involved then it seems like either context-sensitivity or Lewis' account of centred worlds could solve it. We could simply either say something about how 'that's over' expresses a proposition that is true relative to a time or that 'that's over' does not really refer to any pastness or presentness but rather to a world, a time and an individual. However, this does not work once we add other A-theoretic features into the mix. Recall that A-theorists hold, not just that there exists the present, the past, and the future (or, at the very least, the present), but also that which times are in possession of these A-properties is in a constant state of change. Time is passing. For the A-theorist, then, it

is not just that 'that's over' is present and the painful event is past, it is that whether or not 'that's over' is true changes. That is, whether or not it is true that the painful event is over is changing as time passes. It is not just that 'that's over' is true at one time and false at another, then, it is that 'that's over' expresses a *changing* proposition. And that is just not allowed on the B-theory. It seems, then, that tensed expressions do not express the same proposition as tenseless ones because our experience tells us otherwise. Or so the A-theoretic story goes.

2.6.1: Tensed Experience

This experience, of things just seeming to us to be changing in some dynamic sense, is what I will call 'phenomenal temporal passage'. I think the A-theorist and the B-theorist alike should accept that we have such experiences.[22] Phenomenal temporal passage is, quite simply, whatever the character or the 'what it feels like' part of our experience when we feel like time is passing. Put another way:

> *I step out of my house into the morning air and feel the cool breeze on my face. I feel the freshness of the cool breeze now, and as the breeze dies down, I notice that time is passing—I need to start walking or I'll be late for class*. (Paul 2010, p. 1).

That is, phenomenal passage is not just noticing that the way things are varies across time, it is that sense of experiencing that change actually happening. When we observe change, then, it seems to us that events flow into another, so that we are not only aware of the fact that change occurs but also of time itself passing as these changes occur – it seems to us that events happening now are replaced with other events. That is, our experience of change feels dynamic in some sense, rather than static.

[22] This claim is widely accepted by B-theorists. However, recently, the view whereby we do not have experiences of phenomenal passage but merely have the naïve belief that time passes has gained popularity. I assume that we do have experiences of phenomenal passage and so I will not address such views aside from in this footnote. However, the interested reader should consult Hoerl (2014), and Latham, Miller and Norton (forthcoming).

And we have this same feeling, the feeling that time is passing, even when we do not directly perceive any change or variation across time. For example, when I am sitting at my desk, staring at a blank screen, thinking about what task I should start the day with, I also feel as though time is passing in this same dynamic sense. That is, 'we just see time passing in front us, in the movement of a second hand around a clock, or the falling of sand through an hourglass, or indeed any motion or change at all' (Le Poidevin 2008, p. 76).

2.6.2: What the A-theorist Thinks is Needed to Account for Experience

The A-theorist, recall, thinks that the only adequate account of our tensed experience is that reality is tensed. This amounts to the belief, not only that we have experiences of phenomenal passage, but also that time passes mind-independently. Temporal passage, for the A-theorist, refers to very specific, dynamic features that exist objectively and mind-independently. As I have already said, there are a few different varieties of A-theory. Presentists[23] think that only the present exists. Growing blockers[24] think that only the past and the present exist. Moving spotlighters[25] think that the past, the present and the future exist.

Regardless of these different versions of the A-theory, all A-theorists agree that time passes and that the present moment is crucial to this temporal passage. They only differ in what they think makes the present moment metaphysically privileged. Presentists think that the present is objectively privileged because it is the only existent time. Growing blockers think that the present is distinguished from the past because it is the point at which times come into existence. And the moving spotlighters think that the present is metaphysically distinguished from the past and the future just in virtue of being the present – i.e. only present entities exist.

[23] See Markosian (2003) for information about presentism.
[24] See Forrest (2004) for a response to objections about the growing block theory.
[25] See Cameron (2015) for information about the moving spotlight theory.

According to each of the versions of the A-theory, temporal passage consists in a constant change of which moment is present. For the presentist, this constant change of presentness is a constant change in what exists, as times come into and go out of existence as they become and then cease to be present. For the growing blocker, this consists in moments coming into existence and then ceasing to be present as they recede into the past. For the moving spotlighter, the change in presentness involves times ceasing to be future, then having a metaphorical 'spotlight' of presentness upon them, before becoming past as they lose that spotlight.

Putting this together, then, I take A-theoretic passage to involve an acceptance of three claims. They are that, necessarily:

1. The features of temporal passage identically resemble the features we experience.
2. Temporal passage involves certain A-theoretic features (the changing present moment, for example).
3. Temporal passage exists externally from our minds (mind-independently).[26]

The first claim is just that the A-theorist thinks that we experience phenomenal temporal passage – the character of our experience or, in other words, the feeling that time is passing – because there is some mind-independent property (temporal passage) with the same features represented to us in experience. Thus, by 'identically resembles' I mean that the features that temporal passage seems to have, in our experience of phenomenal temporal passage, are in fact features of mind-independent temporal passage.

[26] Note that my three A-theoretic claims about passage are similar to discussions by Markosian (1993). He takes temporal passage to be a combination of three theses. The first is that temporal passage consists in whatever features time has that space lacks. The second thesis is that our use of tense is ineliminable – propositions have truth values at times – and reflective of constant change or passage in the environment in which tense is used – i.e. we utter tensed expressions because things are constantly changing. His third thesis is that there really are A-properties – that is, the past, the present and the future are real properties that times have – and 'talk about A-properties does not merely describe some linguistic or mind-dependent phenomenon' (Markosian 1993, p. 8).

Then, the second claim is just the claim that temporal passage is A-theoretic. By this I mean that temporal passage necessarily involves a constant change in what is present and, furthermore, that the change in what is present is objective. There are, of course, other things that the A-theorist can say is involved in passage. However, for our purposes, in order to count as A-theoretic passage, a constant change in a privileged present moment is needed as a minimum.

Finally, the third claim is that temporal passage exists externally from our minds. By this I mean that temporal passage, with all the other A-theoretic features just described, must also exist mind-independently in order to count as temporal passage. After all, the appeal of the A-theory is meant to be that they accept a mind-independent temporal passage, so it makes sense that mind-independence is a necessary feature of temporal passage for the A-theorist.

So, something like my discussion above, of the three A-theoretic claims, is the A-theorist's account of our experience of phenomenal temporal passage. This is, quite clearly, also their account of the problem of tensed experience. That is, the A-theorist can hold that we experience reality as tensed and use tensed sentences because reality is tensed – i.e. time is passing, mind-independently.

This is similar to the debate about instantaneous velocities, which I briefly discussed in the introductory chapter. Some theorists adopt the Hegelian view, that an object being in motion at t is an intrinsic property of the object at that time, a property the object could have no matter what things are like at other times. On the view, motion appears even in an instant, and doesn't reduce to position facts (Priest 1985, pp. 341-342). This seems akin to A-theoretic claims that, in order for time to pass, it cannot just be that there is change or variation over time, it needs to be that things are constantly *changing*, even at one time. That is, the A-theorist who is a realist about passage wants something like the intrinsic motion accepted by Hegelians about

motion; they want an instantaneous fact about each single moment that nevertheless metaphysically entails the existence of past and future times that it has passed from and will pass to.

Conversely, the more orthodox Russellean view, the 'at-at' view, does not require any intrinsic property of change or motion at a time for there to be change or motion. On the view, to be in motion at t_1 supervenes on position at other times in a small interval around t_1. The facts about every time, then, are completely characterised by facts about position, and motion. That is, the facts about motion and change only appear only when you put those 'static' position facts together in a temporal structure (Priest 1985, pp. 339-340). It is easy enough to see that this view is B-theoretic. That is, like proponents of the 'at-at- view, B-theorists accept that there is change in the sense that the way things are vary over time. However, the problem then seems to be that our experience of phenomenal temporal passage seems to align best with the A-theoretic view, that there is intrinsic change at a single moment. So, the B-theorist, like the 'at-at' theorist, must provide an account of our experience. And to do so, they can either be realists about motion or, in our case, temporal passage, or they can be error-theorists. In the following section I will explain what both kinds of B-theorists need to provide such accounts.

2.6.3: What the B-theorist Needs to Account for Experience

I have just described that the A-theorist accounts for tensed experience or phenomenal passage by positing the existence of mind-independent, resembling features. Given that I assume that we have experiences of phenomenal temporal passage, I think that the B-theorist also needs an account of our experience of phenomenal temporal passage.

The B-theorist who accepts that we have the same experience described by the A-theorist – phenomenal temporal passage – can provide such an account in a couple of ways. They can deny that phenomenal temporal passage is an experience of any mind-independent passage –

i.e. they can hold that our experience is an illusion. Or they can hold that phenomenal temporal passage is an experience of mind-independent temporal passage, but that temporal passage does not have the same features accepted by the A-theorist. That is, they can accept that time passes but deny A-theoretic claim 1, that temporal passage identically resembles phenomenal temporal passage.

This is similar to Frank Jackson's way of characterising the problem at hand and the different B-theoretic responses to the problem. In *From Metaphysics to Ethics: A Defence of Conceptual Analysis* (1998) Jackson discusses a couple of examples of what he calls the 'location problem'. This is the problem of identifying a place, in our preferred theoretical framework, for some otherwise problematic phenomenon. So, for our task of accounting for phenomenal passage on the B-theory, the problematic phenomenon is temporal passage. The A-theorist accepts that such a property exists and, given assumptions made by the B-theorist, it does not seem like the B-theory can accept such a property. But, as we learn in Jackson's discussion of other examples, this does not mean that the B-theorist cannot solve the problem.

For example, we know the scientific properties that objects like tables and chairs have. That is, we know that such objects are made up of molecules that are very close together. But this scientific fact does not say anything about whether or not the object is *solid*. And yet the objects that we seem to think of as solid objects are made up of molecules that are in close proximity together, while the objects we think of as liquid are made up of molecules that are far apart from one another. So, it seems that we should identify a place in our scientific theory of certain objects for the phenomenon of solidness. One could, of course, hold that there is really no such thing as mind-independent solidness. That is, one could deny that solidness has a place in our current scientific theory.

Or, one could do as Jackson suggests and distinguish 'what appears explicitly in an account from what appears implicitly in it' (1998, p. 2). That is, we can say that, although solidness does not appear explicitly in the scientific story about molecules arranged in a certain way, solidness is entailed by the science. In other words, we can say that the definition for what it is to be a solid object just is the scientific story.

Likewise, for our task of identifying a place within the B-theory for temporal passage, we can look at what is implied by the theses accepted by the B-theorist rather than just what is explicitly endorsed. In the next chapter I will endeavour to provide an account of our tensed experience for the B-theorist who holds that we illusorily perceive our experience of phenomenal temporal passage as existing mind-independently. Projectivism involves accepting the A-theoretic assumptions outlined earlier but denying that any such A-theoretic temporal passage exists as the cause of our experience. As such, the projectivist solves the location problem by denying that there is a place within the B-structure to locate temporal passage and explaining why there seems to be a location problem in the first place.

Alternatively, in the final chapter, I will explain how the B-theorist who does not think there is anything illusory about our experience of phenomenal temporal passage can account for our tensed experience. These versions of the B-theory deny A-theoretic features 1 (that temporal passage must identically resemble phenomenal passage) and 2 (that temporal passage must involve A-theoretic features like a privileged present). Such B-theorists, then, can solve the location problem by holding that temporal passage has a place in and is entailed by the existing B-structure. That is, they can define temporal passage as those features in the B-structure that are already accepted by B-theorists.

Both the B-theoretic accounts whereby temporal passage has no location in the B-structure and whereby temporal passage has a location within the B-structure will enable me

to conclude that the B-theorist has an account of our tensed experience. Moreover, given that in this chapter I have shown that the B-theorist already has an account of tensed sentences and tensed beliefs, I will conclude that there is no reason to prefer the A-theory over the B-theory.

Chapter 3 – Projectivism for the B-theorist

3.1: Preamble

In chapter 2 I concluded that the B-theorist has an adequate answer to the version of the 'thank goodness that's over' problem that takes the problem to be about our attitudes about tensed propositions in either Lewis' account of the content of our attitudes or in Kaplan's account of modes of presentation. This means that there is not a knock-down argument against the B-theorist's ability to account for our experience in as intuitive a manner as the A-theory does. However, this is not enough incentive to be a B-theorist, it is only enough incentive to think that the B-theory is not an impossibility.

Both Lewis and Kaplan's accounts are adequate answers to Prior's objection to the B-theorist's ability to account for our use of tensed language. However, they don't give a B-theoretic reason for why this is. That is, the B-theorist, I think, must still provide an account of why it is that we seem to think that reality is constantly changing, in a way that makes tensed sentences seem appropriate – that is, why reality seems to involve intrinsic or *dynamic* change. What the B-theory is missing, then, is an explanation of the link between B-theoretic features and our experience. We need a B-theoretic account of our experience that drives our use of tensed sentences and not just an account of our different attitudes at different times.

As I have already mentioned, B-theorists do not deny that there is change. That is, they do not deny that when events at t_1 are different to events at t_2 this is because some change occurs. B-theorists and A-theorists only disagree about what that change is like. A-theorists think that change is in some sense *dynamic* – not just that there is change but that things are *changing*. This is usually called temporal passage – that is, A-theorists think that the dynamic way in which reality appears to us is our experience of time passing. As I said in the previous

chapter, A-theorists account for this experience by accepting the three A-theoretic claims about passage.

B-theorists, likewise, think that when I am sitting at my desk trying to get work done, the feeling I have of the day dragging on is an experience of some temporal features. However, B-theorists (traditionally) do not think that time passes. They do not think that the feeling of things changing in a dynamic fashion is an experience of temporal passage. In this chapter, I will discuss one way for the B-theorist who does not think that time passes mind-independently, or at least that such temporal passage is not a cause of our experience, to account for our experiences. This view, projectivism, involves holding that features of our experience are projected onto the world and mistakenly attributed to the world.[27]

3.2: Hume's Projectivism

David Hume is usually thought to be the founder of modern projectivism – the view that we project mental features onto the world and perceive them as existing on worldly objects. In *A Treatise of Human Nature* (1739) Hume says that 'the mind has a great propensity to spread itself on external objects, and to … make their appearance at the same time that these objects discover themselves to the senses' (Book 1, Part 3, Section 14). Here, Hume is referring to the idea of necessary connection, in which an event causes an effect if the cause necessities the effect – i.e. it is a necessary product of the cause that the effect be brought about. Upon reading the above quoted excerpt from *A Treatise of Human Nature* (1739), it may be fairly obvious to the reader that Hume thinks that we project mental features onto the world. That is,

[27] Note that projectivism is sometimes explained using the primary and secondary quality distinction (primary qualities being mind-independent properties). However, there is not a consensus about which properties are secondary qualities on projectivism. Some projectivists hold that secondary qualities are purely mental properties (the phenomenal experience), while others hold that secondary qualities are mind-independent dispositions, but that those mind-independent dispositions are not colours. I choose not to cash out projectivism in terms of primary and secondary qualities in order to avoid confusion, as in chapter 4 I define secondary qualities as dispositions in a way that is aligned with a different view, dispositionalism.

it is clear that Hume thinks that, in the case of causation at least, we project or 'spread' necessary connection onto the world, so that we think we perceive mind-independent necessary connection, when really it is a mental or mind-dependent phenomenon.

So far, this framework is fairly minimal. That is, it does not explain what exactly prompts our experience, nor does it explain why we would project such an experience onto the world. Hume argues that, through observing distinct events many times, we come to notice that some events occur later than particular events more often than others. This is sometimes called 'constant conjunction', as certain events occur one after the other.

> *These instances* [says Hume] *are in themselves totally distinct from each other, and have no union but in the mind, which observes them, and collects their ideas. Necessity, then, is the effect of this observation, and is nothing but an internal impression of the mind, or a determination to carry our thoughts from one object to another.* (Hume 1739, Book One, Part Three, Section 14).

It seems, then, that Hume held that our observation of constant conjunction, over time, explains our experience as of mind-independent necessary connection.

But it does not explain why we would consequently project that experience onto the world. Hume has an answer for this also. He argues that, upon continuously experiencing certain mind-dependent features (determination) only when observing mind-independent features (constant conjunction), we begin to associate the two experiences with each other so much so that they become intertwined in experience. Hume calls this 'conjunction in place'.

The idea is that 'when objects are united by any relation, we have a strong propensity to add some new relation to them, in order to compleat the union' (Hume 1739, Book One, Part Four, Section Five). For example, the thought seems to be that when we observe certain events following certain other events (constant conjunction), we perceive determination – i.e. we

perceive two events as cause and effect. Over time, then, we associate constant conjunction with mind-dependent determination so much so that we begin to attribute determination to the world. That is, we begin to perceive determination as existing mind-independently. And, accordingly, we begin to think that there is necessary connection in the world. This is the projection.

3.2.1: Versions of Hume's Projectivism

So, Hume thought that we project our mind-dependent experience of determination onto the world and have the illusory perception as of mind-independent necessary connection. However, although it is clear that Hume was a projectivist about necessary connection, this much alone does not mean he was an error-theorist about necessary connection. That is, just the projection of mind-dependent features means that the perception that mind-independent necessary connection is an illusion. It settles nothing about whether necessary connection itself exists. In fact, there are roughly three possible views about just this topic. Hume could have been an error-theorist projectivist, a mind-dependence projectivist or a sceptical realist projectivist. I will now describe these views in turn.

It is usually thought that Hume held that necessary connection did not exist at all.[28] That is, it is usually held that Hume was an error-theorist projectivist. This involves accepting the claim the necessary connection would have to exist as a mind-independent phenomenon for it to exist at all. This, coupled with the assumption that no mind-independent necessary connection exists, means that we cannot hold that necessary connection exists if there is no mind-independent property that identically resembles (has the same features as) our experience.

[28] See Millican (2009).

It seems natural to suppose that Hume thought that necessary connection does not exist. After all, he said that 'we naturally imagine a conjunction, even in place, betwixt the objects and qualities, tho' the qualities be of such a nature as to admit of no such conjunction, and really exist no where' (Book 1, Part 3, Section 14). 'Exist no where' is of course the noteworthy part of the quote, as it seems that Hume thought that, because we project necessary connection from our minds onto the world, necessary connection really does not exist at all. On such a view, the illusion, then, is that necessary connection exists.

Alternatively, it is sometimes held that Hume was not an error-theorist about necessary connection at all. That is, Hume is sometimes thought to have held that necessary connection does exist, but that it is not an essential part of necessary connection that it exists mind-independently. This is mind-dependence projectivism; the view that necessary connection exists a property of the mind – a mind-dependent property. Necessary connection, on this view, just is our experience of determination. On such a view, we still have an illusory perception of as of necessary connection existing mind-independently, following our projection of determination onto the world.

In 'Hume on Causation: The Projectivist Interpretation' (2007) Helen Beebee interprets Hume in this way. She argues that Hume most likely thought that necessary connection *does* exist, just not as a mind-independent relation. She says that:

> *it might seem as though to say that we cannot so much as think that there are mind-independent causal relations… is tantamount to giving up on the thesis that we 'do really think of objects as causally or necessarily connected', when part of the point of a projectivist interpretation of Hume is precisely that it allowed him to uphold that thesis* (Beebee 2007, p. 230).

This suggests that Hume may have thought that his denial of necessary connection existing mind-independently was compatible with the view that it exists. That is, it has at least been argued that Hume thought that necessary connection was real, but only existed as a mind-dependent relation, which we then project onto the world. On this version of the view, then, the error or illusion is that necessary connection is mind-independent.

In contrast to the two versions of projectivism just discussed, theorists like Galen Strawson (2014) argue that Hume could not have thought that necessary connection either does not exist at all (as the error-theorist does) or does not exist mind-independently (as the mind-dependence projectivist does), because Hume was a sceptic about necessary connection. This is the sceptical realist view. In short, the view is that there is, or at least could be, real necessary connection in nature – i.e. there may be real mind-independent powers. But those powers are not present in experience; we only see the regularities they give rise to. So, the view is sceptical because we can't know when there is necessary connection. The view is realist, then, because for all we know, necessary connection could exist mind-independently. It is just that there is no way for us to know one way or the other. That is, as a sceptic, Hume's claim cannot be that necessary connection absolutely does not exist. Rather, his claim must be that 'regular succession is all that causation is or involves *so far as we have any empirically warranted positively descriptively contentful conception of causation*' (Strawson 2014, p. 16).

The debate about whether Hume was an error-theorist, mind-dependence theorist, or a sceptical realist about necessary connection changes nothing about Hume being a projectivist, at least not on my characterisation of the view. That is, each of the three versions of projectivism explain how our experience of determination is mistaken for a mind-independent feature of the world. As the goal of my chapter is to provide an account of our experience of phenomenal passage, then, an acceptance of one of the three kinds of Humean projectivism in particular is not required. I will leave that up to the reader.

3.3: Projectivism

Now that we have the basic idea of what I characterise as Hume's projectivism – the view that we project our mind-dependent experience onto the world and illusorily perceive mind-independent necessary connection – it seems that we can apply the same kind of idea to other properties. In fact, many theorists do so in the case of colour. [29] In this section, I will briefly describe what such a projectivist view would look like in the case of colour.

Recall that, for the projectivist about necessary connection, there are roughly three versions of the view. The Humean can be an error-theorist and hold that there is no necessary connection at all. Or they can be a mind-dependence theorist and hold that necessary connection is a mental relation between ideas. Or the Humean can be a sceptical realist and hold that there may be mind-independent necessary connection but that our experience is just an experience of the regularities necessary connection gives rise to. As we saw, all three versions of projectivism about necessary connection involve holding that we project the features of our experience onto the world – i.e. the features of our experience do not exist mind-independently, or at least not as causes of our experience.

Accordingly, there are three possible versions of projectivism for the projectivist about phenomenal colour. Phenomenal colour, as I characterise it, is the experience we have when we ordinarily think we perceive colour. That is, even those who deny that any mind-independent colour exists can hold that we have experiences of phenomenal colour, as phenomenal colour is simply the experience we have when we think we perceive colour. For example, the experience of perceiving phenomenal redness is an experience of phenomenal colour, regardless of whether or not there exists any mind-independent 'red' that identically resembles the experience.

[29] See Averill (2005).

With this in mind, I will now describe projectivism about phenomenal colour as it applies to all three possible versions, before briefly detailing the three projectivist views. For the projectivist, when we perceive any given coloured object, that experience is actually caused by mind-independent properties (surface reflectance properties or scattered light, for example). The mind-independent properties, along with the brain/mind and perceptual functions of the observer, explains our experience of phenomenal colour. The phenomenal colour, which, recall, only exists in our minds, is projected back onto the world by us. This then explains our illusory perception of phenomenal colour as existing mind-independently. For all versions of projectivism and for projectivism about any phenomenal experience, the view about how the phenomenal experience arises can be represented like so:

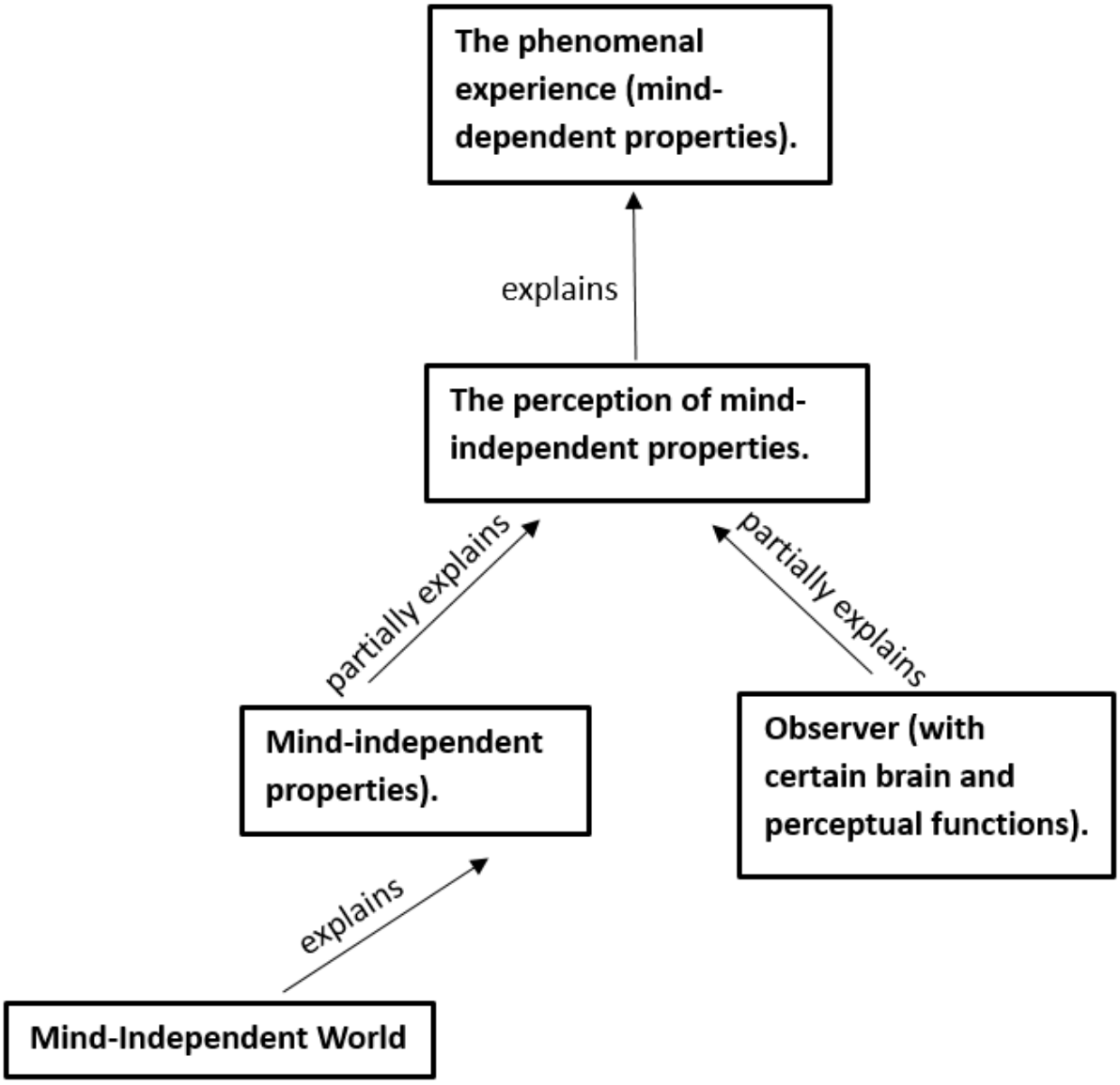

Figure 1. Experience on projectivism.

And, again for all versions of projectivism, the view about our subsequent projection of the phenomenal experience onto the world can be represented in the following way:

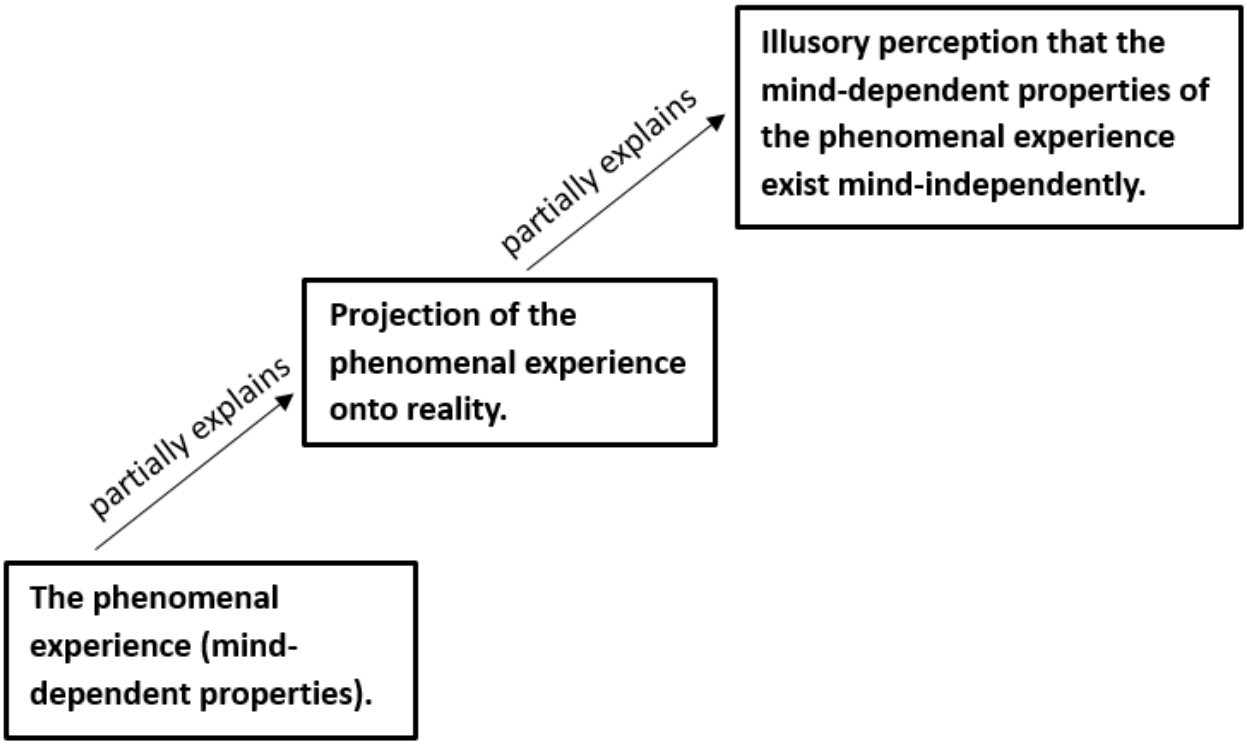

Figure 2. Projection on projectivism.

Further, the projectivist about colour can appeal to a story, similar to that discussed by Hume, in order to explain why it is that surface reflectance properties, coupled with our brain/mind and perceptual functions, results in our experience of phenomenal colour. Recall that, in the case of necessary connection, Hume explains that habituation between events that are constantly conjoined gives rise to the idea of necessary connection. But this, even according to Hume, is not enough. We also need an account of how the projection works. On the other hand, for the case of phenomenal colour, we already know that we have the experiences we do (say of phenomenal redness), and we already know that our perception of certain surface reflectance properties or certain other mind-independent properties gives rise to this

experience. But, as is in the Humean case, we still need an explanation of how it is that our projection of phenomenal colour works.[30]

Then, in order to explain why it is that we attribute our phenomenal colour experiences to worldly objects, we can also appeal to a Humean story. Recall that, again, with the case of necessary connection, it is held that after having associated constant conjunction with necessary connection over time we begin to attribute necessary connection to the world. That is, we begin to perceive it as really existing mind-independently, along with constant conjunction. For the colour case, then, we can say something similar. We can say that, due to our experiences of certain mind-independent properties (certain surface reflectance properties, for example) being associated with the perception of phenomenal redness, over time we begin to attribute that phenomenal redness to worldly objects. That is, we begin to project phenomenal colour onto the world.

3.3.1: Three Versions

As is the case with projectivism about necessary connection, there are roughly three possible versions of projectivism about phenomenal colour. I will now explain each of them in turn.

Projectivism error-theory involves holding that colour itself does not exist at all. As such, the projectivist error-theorist would subscribe to the view that, in order to exist, colour would have to be mind-independent – i.e. exist on worldly objects. But this is not all, as if it were only that colours had to exist mind-independently in order to count as colours, then the projectivist error-theorist would be able to identify colour with some mind-independent property involved in our phenomenal experience (surface reflectance properties, for example).

[30] I have clearly not given a detailed, scientific description of visual experience. For a more detailed description of our visual experiences and projectivism, see Averill (2005).

However, the projectivist error-theorist would also hold that colour itself would need to identically resemble phenomenal colour – i.e. that mind-independent colour has to have the same features as that of phenomenal colour, or, in other words, colour would have to look exactly the same, mind-independently, as phenomenal colour does. Then, as the projectivist error-theorist denies that any mind-independent property exists with the same features as phenomenal colour, they deny that colour exists. Our projection of phenomenal colour, then, explains our illusory experience as of colour. But, in actual fact, there is no such thing as colour.

Alternatively, one could subscribe to the mind-dependence version of projectivism about colour. This would be the view whereby, in order to count as colour, a property must identically resemble – i.e. have the same features as – phenomenal colour. However, the mind-dependence colour projectivist would deny the claim that colour has to be mind-independent. Given this, this kind of projectivist can simply identify colour with phenomenal colour. That is, they can say that we illusorily perceive colour as existing mind-independently (after projecting phenomenal colour onto the world), when in fact colour exists mind-dependently. Colour exists but it just is mind-dependent or mental phenomenal colour.

The third option, then, is sceptical realism. This is view that mind-independent colour may, for all we know, exist but is not a cause of our experience. On the view, our experience of phenomenal colour is not an experience of mind-independent colour, even though colour may exist. It is sceptical, then, because, even when there is genuine mind-independent colour, we could not know it because our experience of phenomenal colour is not a cause of mind-independent colour. Instead, our experience of phenomenal colour is a result of other mind-independent properties (such as surface reflectance properties). But these mind-independent properties are not colour. Colour may exist, then, but it is not a cause of our experience.

I will not argue for any of the three versions of projectivism over any other, as they explain our phenomenal experience equally well.[31] That is, as projectivist views, they all hold that our phenomenal experience is projected onto the world and consequently illusorily perceived as mind-independent properties. Accordingly, they all account for our experience using the same mechanism. Proponents of the views would only differ, then, based on the features they think colour must have in order to count as colour (e.g. mind-independence, identical resemblance to phenomenal colour), and on whether or not they think that colour exists.

The projectivist error-theorist thinks that colour must be mind-independent and identically resemble phenomenal colour and so denies that colour exists. The mind-dependence projectivist holds that colour does not have to be mind-independent but does have to identically resemble colour and so holds that colour just is phenomenal colour. And the sceptical realist thinks that colour does have to be mind-independent but they deny that we have experiences of colour, even though colour may exist. Which of these projectivisms the reader subscribes to does not matter much for our purposes, as they all explain how our phenomenal experience arises.

3.4: Le Poidevin's Projectivism

Now that I have explained projectivism, using the examples of necessary connection and colour, we can return to our task of providing an account of our experience of time for those B-theorists who deny that temporal passage exists. I think it is quite obvious that projectivist error-theory is a suitable view about these temporal experiences. In fact, something like this version of projectivism is already discussed in the literature about time (although quite

[31] Which is not to say they are equally good on other grounds. For example, perhaps anti-realism about colour is too much at odds with our starting point to be acceptable, given that there are other projectivist explanations of colour experience that do not deny that things are coloured

minimally). Robin Le Poidevin (2008) is one such projectivist B-theorist. Le Poidevin argues that there is evidence to suggest that we are not as passive with respect to motion and change as is suggested by our experience.

There are many experiments where we illusorily perceive motion where there is none. One such example, that is discussed by Le Poidevin[32] is the 'flash-lag' experiment. When participants are presented with a dot that is slowly moving they perceive motion. This seems veridical so far. However, when another dot appears on the same screen, either above or below the moving dot, participants perceive the moving dot as being ahead of the motionless dot, when it is really above or below it. That is, it appears to observers that the moving dot has moved away from the motionless dot when, in fact, the two dots are in parallel. There are a number of competing views about what exactly is going on in this particular illusory experience.[33] For our purposes, all that matters is that such illusory perceptions as of motion and change exist, as that much indicates that part of motion perception is illusory. That is, 'the moral of these various findings … is not that motion perception is essentially illusory, but that there is at least a component of motion perception that is constructed, or projected, by the mind' (Le Poidevin 2008, pp. 94-95).

Similarly, in 'Temporal Experience' (2010), L. A. Paul uses an example of illusory motion detection in order to argue that the B-theorist has a 'plausible account of how our experience as of change could be a cognitive reaction to the successive replacement of suitably intrinsic properties' (Paul 2010, p. 19). It is well-documented that, when we are presented with a dot on the left-hand side of a screen, which quickly disappears, and is replaced with an identical looking dot on the right-hand side of the screen, we do not merely perceive two separate dots replaced in quick succession. Instead, even once we are told what is really

[32] But originally noted by McKay (1958)
[33] See Nijhawan (1994), and Eagleman and Sejnowski (2000)

occurring, we perceive the first dot, on the left-hand side of the screen, as moving to the right-hand side of the screen and back again. That is, we perceive one dot moving across the screen, even though there are really two dots replaced successively. This is also an illusion of apparent motion (Paul 2010, p. 21).

A plausible explanation of these illusory experiences and the explanation favoured by Paul is that our brain/mind and perceptual functions, coupled with the two dots being replaced in quick succession, produces our experience of apparent motion. That is, our brains/minds have a large role to play in turning our perceptual interaction with succession into experiences of change.

Following from this kind of thought, Paul concludes that the B-theorist can appeal to the same sort of explanation in order to provide an account of our experience of phenomenal temporal passage. They can say that when we experience two times, t_1 and t_2, one after the other, in quick succession, our brain/mind and perceptual functions result in our perception of apparent temporal passage. That is, it seems to us that time is passing due to variation in the way things are across time. In other words, 'we experience an illusory sense as of flow and change as the result of the brain's need to accommodate the contrasts between the stages t_1 and t_2' (Paul 2010, p. 27).

Likewise, following the same kind of thought, Le Poidevin argues that a version of projectivism is a viable option for a B-theoretic explanation of our apparent experiences of A-theoretic features, including the kind of motion and change discussed in the two examples. That is, 'A-theoretic properties are not in the world, but are projected on to the world in response to certain features of our experience' (Le Poidevin 2008, p. 95). Le Poidevin does not go into much more detail about projectivism. Nevertheless, I think it fair to assume that the details of

the view that he has in mind do not differ very substantially from the projectivism that I will discuss in the next section.

3.5: Temporal Passage Projectivism

In the previous section I discussed Le Poidevin's projectivism about our mind-dependent experience of A-properties. Although the view uses different terminology to that which I use, I do not think the view is very different to projectivism as I will describe the view. In order to show this, then, I will describe three possible versions of projectivism that parallel the three possible versions of Humean projectivism. Once I have described these views, I will compare them with Le Poidevin's projectivism.

Like with the case of colour, then, we need some mind-independent temporal features for our phenomenal experience to arise. I will sometimes call these mind-independent features or properties 'B-structure' or 'B-theoretic structure', as different B-theorists may think that different mind-independent features accepted by B-theorists are the properties that cause our phenomenal experience. Recall that the B-theory accepts that all times exist in a particular order. Accordingly, one may think that just the existence of times is the part of the B-structure that explains our experience. Conversely, one may also think that there is some causation involved in the temporal order and that this causation is the part of the B-structure that explains our experience. Or one could think temporal distance from the context of utterance is the part of the B-structure that explains our experience.

I will leave it mostly up to the reader to fill in whatever part of the B-structure they think explains our experience of phenomenal passage. Furthermore, the reader will recall that, at the end of chapter 2, I explained that I will call our phenomenal experience in the case of time 'phenomenal temporal passage' or 'phenomenal passage', because it seems to us that time

is passing (A-theoretically or dynamically, as it is sometimes put) in experience. With this information on terminology in mind, then, I can begin with an explanation of projectivism.

On each version of projectivism, the mind-independent properties (some B-structure), along with our brain/mind and perceptual functions, explains our mind-dependent or mental experience (phenomenal temporal passage). We then project phenomenal passage onto the world and have the illusory perception that we perceive a mind-independent phenomenal temporal passage.

3.5.1: Three Versions

Following this, it seems natural to deny the existence of temporal passage. That is, it seems like the projectivist should be an error-theorist about temporal passage. This is the view whereby temporal passage does not exist at all, but that only phenomenal passage does. But this is not the only view available to the projectivist. To see why, let us again consider the three A-theoretic claims about just what features are necessary for a property to have in order for that property to count as temporal passage. Again, they are that, necessarily:

1. The features of temporal passage identically resemble the features we experience.
2. Temporal passage involves certain A-theoretic features (the changing present moment, for example).
3. Temporal passage exists externally from our minds (mind-independently).

The error-theorist projectivist about temporal passage accepts that all three A-theoretic claims would have to be true in order for temporal passage to exist. However, unlike the A-theorist, they deny that all three claims apply to any property. That is, they deny that temporal passage exists precisely because the property that does include certain A-theoretic features – i.e. phenomenal temporal passage – does not exist mind-independently.

Phenomenal temporal passage, recall, involves the feeling that the present is changing, and that time is passing. This is claim 2. Further, the only property that identically resembles our experience of phenomenal temporal passage is phenomenal temporal passage itself, because there is no mind-independent passage. This is claim 1. This means that the only property that claims 1 and 2 apply to is phenomenal temporal passage. But phenomenal temporal passage does not exist mind-independently. But claim 3 says that it has to. Therefore, given that the error-theorist projectivist accepts that all three A-theoretic claims would have to be true for temporal passage to exist, they hold that temporal passage does not exist. It is an illusion that time passes.

Another way of putting this is to again use Jackson's (2014) discussion of location problems. Recall that, following something like Jackson's framework, the B-theory without an explanation of temporal passage lacks an answer to the question of where to locate temporal passage. The error-theorist projectivist account solves the location problem, then, by positing that there is no location in the B-structure for temporal passage. Accordingly, temporal passage does not exist.

But, as I hinted at earlier, not all projectivists must be error-theorists about temporal passage. That is, they do not have to accept all three A-theoretic claims. For example, the mind-dependence projectivist can deny A-theoretic claim 3 (that temporal passage must exist mind-independently), and accept claims 1 and 2 (that temporal passage must identically resemble phenomenal passage and that temporal passage must include certain A-theoretic features). As such, the mind-dependence projectivist can hold that temporal passage does exist but that it does not exist mind-independently. Temporal passage just is phenomenal passage, then. Further, On Jackson's framework, mind-dependence projectivism solves the location problem by locating temporal passage, not within the B-structure, but within the mind.

However unintuitive one may find this view, it accounts for our experience of phenomenal passage in the same way as other kinds of projectivism and explains how that experience arises. Unlike error-theory projectivism, then, it simply labels our phenomenal experience as temporal passage and, therefore, allows the projectivist to accept that a kind temporal passage exists (albeit not a kind of passage that the A-theorist would accept).

Further, as was the case with necessary connection and colour, there is a third possible kind of projectivism. One could be a sceptical realist projectivist. This view, like error-theory projectivism, involves an acceptance of all three A-theoretic claims, so that temporal passage must be identical to phenomenal passage, must include certain A-theoretic features, and must exist mind-independently, but denying that phenomenal passage is an experience of temporal passage. That is, the sceptical realist holds that a mind-independent temporal passage, as the A-theorist describes it, may exist, but that our experience of phenomenal passage would be had even if it did not exist. The view, like error-theory projectivism, then, involves holding that there is no obvious location within the B-structure for temporal passage. However, this does not mean that we know for sure that there is no temporal passage. The sceptical realist, then, is sceptical about whether or not we have any genuine experiences of temporal passage. Our experience of phenomenal passage is still explained on the view, because the sceptical realist still holds that we project phenomenal passage onto the world.

Here, I should note that the sceptical realist view is unlikely to be appealing to the B-theorist, as B-theorists deny that temporal passage, as the A-theorist describes it, exists at all. On the other hand, sceptical realist projectivism makes it so that A-theoretic temporal passage may exist. Therefore, sceptical realist projectivism is, I think, best understood as a version of projectivism for the A-theorist. That is, the A-theorist who is persuaded by the account of our experience of phenomenal passage offered by the projectivist may wish to include the account as part of their view. This is because an A-theorist would presumably still want to hold that

mind-independent, A-theoretic, temporal passage exists. And sceptical realist projectivism allows them to do exactly that. Accordingly, I think that B-theorist illusionists should sign up to either error-theory projectivism or mind-dependence projectivism, and not sceptical realism.

On each of the views, then, any perception that phenomenal temporal passage exists aside from in our experience is an illusion which is explained by the projection of our experience onto the world. Moreover, it is important to note that, for all three kinds of projectivism, one property of the world (some B-structure) is prompting the experience, and a different property (phenomenal passage) is attributed to the world by us. Thus, the mind-independent property prompts the experience, and the phenomenal experience is in the content of the experience itself. What the projectivist is committed to, then, is that the phenomenal experience is actually a property of our experience of the mind-independent structure, and not a property of the world itself, or at least not a worldly property that causes our experience. We then project that experience onto the world.

3.6: Le Poidevin and Projectivism

Now that we are clear on the projectivist view, as I describe it, I will fit projectivism as it is discussed in the time literature into the framework I have provided. That is, I will compare Le Poidevin's view with projectivism as I have described the view.

The reader will have noticed that the features I have described for the case of time are similar to that accepted by Le Poidevin, although I use different terminology. Le Poidevin's account involves the claim that some features in our perception of time are not mind-independent but are projected onto the world by us. Specifically, he thinks that A-properties are projected onto the world by us. That is, Le Poidevin's view seems to be that some mind-independent B-theoretic structure causes our mental experience as of A-properties (the past, present and future, and temporal passage). A-properties, then, are mental properties that we

project onto the world and illusorily perceive as existing mind-independently. There is no mind-independent objective privileged present, past, future, or temporal passage, then.

Conversely, I have said that the phenomenal experience for the temporal case is not A-properties, but phenomenal temporal passage. That is, the fact that it seems to us that time is passing. Despite the difference in language, for reasons that will become clear, I think that Le Poidevin's talk of A-properties is best understood as referring to the same property that I call phenomenal passage. That is, Le Poidevin's aim, like mine, is to account for our experience of time. I am neutral about whether such an experience seems to us to involve the past, present and future. This is why I call the experience phenomenal temporal passage.

With this in mind, it seems as though Le Poidevin's projectivism could also be broken down into three possible versions of the view. That is, it could quite easily be the case that a follower of Le Poidevin's view holds that A-properties do not exist at all. This would be error-theorist projectivism and involves agreeing with the A-theorist, that A-properties would have to exist mind-independently, but that, because no such mind-independent property exists, there are no A-properties. This seems to be the view suggested by Le Poidevin and is, I think, the most common use of projectivism.

I think it is most likely that Le Poidevin's discussion aligns with error-theory projectivism. However, it may also be the case that the view in mind is more like sceptical realism or mind-dependence projectivism. In the case of sceptical realism, one may think that parts of Le Poidevin's discussion seem to suggest that the sceptical realist version of projectivism is a possibility. Recall that, in Le Poidevin's discussion of motion detection, he says that 'the moral of these various findings … is not that motion perception is essentially illusory, but that there is at least a component of motion perception that is constructed, or projected, by the mind' (Le Poidevin 2008, pp. 94-95). I think it is most likely that this quote

and other parts of the text indicate that all of our experiences of motion detection involve some projection. However, one may instead think that the point is that we have some experiences of motion detection where there is no projection of mental features involved. That is, that motion and A-properties could, in fact, exist mind-independently in the world and that our experience is only sometimes projected. If this is right, then the view would be that A-properties may exist but that we have no reason to suppose that we perceive them, as at least some of the time we have the phenomenal experience without perceiving them. However, as I said, I think this is unlikely to be Le Poidevin's view.

The mind-dependence view, then, would be the view that A-properties do exist but just as mental features or properties. The view, of course, involves a denial of the claim that A-properties would need to exist mind-independently in order to count as A-properties. Aside from the fact that I do not think Le Poidevin hints towards this version of projectivism, I do not think it is a worthwhile view because I think it is difficult to make sense of. That is, it seems strange to hold that *all* A-properties (the past, present, and future) exist as mental properties. I'm not even sure we have phenomenal experiences of pastness and futurity, so it seems unnecessary, to me, to sign up to a view that not only accepts that we experience phenomenal pastness and futurity but also that pastness and futurity just are mental properties. I'm unsure why anyone would want to sign up to such a view.

At this point, one might wonder whether something like this objection works for Le Poidevan's style of error-theory projectivism and sceptical realism projectivism also. I think it does. In fact, for all three possible versions, it seems like we have to sign up to this strange idea that all A-properties, including pastness and futurity, are phenomenal experiences. And, while I think that the feeling that which moment is present is changing is involved in our experience of phenomenal passage, I just don't think it makes sense to hold that we experience and project the past and the future onto the world. That is, it does not seem to me that we experience things

as being past or future, so it seems strange to hold that they, along with temporal passage and the present, are projected.

And this is precisely why I think Le Poidevin's view is best understood as referring to phenomenal passage, and not A-properties. Likewise, this is why, on my way of cashing out projectivism, the goal is simply to provide an account of our experience of phenomenal passage, rather than all A-properties. Therefore, if it turns out that an experience of phenomenal temporal passage does include an experience of phenomenal pastness and futurity, there is no problem for my characterisation of projectivism. I am simply providing an account of our experience of phenomenal passage. If that experience turns out to involve more than I realise, that is perfectly fine with me.

3.7: How We Project

Whether or not one accepts the projectivist picture I have offered so far or something more like Le Poidevin's version of the view, there is still the lingering question of how exactly it works. That is, I have said that our perception of the mind-independent B-structure, coupled with brain/mind and perceptual functions of the observer, explains our experience of phenomenal passage. This much seems pretty likely just based on examples offered by Paul and Le Poidevin about perceptual illusions. That is, it is fairly common for our experience to not identically resemble the features that cause them. However, it is the further projectivist claim, that we project that experience back onto the world and illusorily perceive the phenomenal experience as existing mind-independently that is in need of further explanation. In this section, then, I will use Hume's discussions to provide an explanation of how it is that we project features of experience back onto the world.

Following on from Hume's claims about exactly how determination is projected onto the world discussed earlier in the chapter, we already have a framework to explain how and

why it is that we project phenomenal temporal passage onto the world. Recall that he argues that, upon perceiving a constant conjunction of events (events occurring one after the other), we have experiences of determination. Analogously, the B-theoretic argument seems to be that, upon perceiving some B-structure (variation of change across time – the water being cold at t_1 and hot at t_2 – for example) we experience phenomenal temporal passage. About necessary connection, Hume goes on to say that we project the experience of determination onto the world and come to perceive necessary connection as existing in the world, as constant conjunction does – as a result of our associating determination with constant conjunction.

Again, we can say something similar for the case of phenomenal passage. We can say that we project the experience of phenomenal temporal passage onto the world after associating the experience with mind-independent B-structure – e.g. variation across times.[34] So, assuming that projectivism about phenomenal passage is correct, we have an account of why we project certain experiences onto the world thanks to Hume.

Further, thanks to the discussions by Paul and Le Poidevin we looked at in a section 3.4 of this chapter, it seems that we are subject to similar illusions a lot of the time. And, as we saw, in cases of such known illusions as of motion we seem to have the naïve psychological experience of such perceptions as veridical, even when we know that they are not. This seems to indicate that it is a natural human response to take every experience as veridical. But just this naïve psychological response, that our experience of phenomenal passage is an experience of a mind-independent passage that identically resembles that experience, does not mean that

[34] Here, I talk of variation across times as being the B-structure responsible for our experience. This is partly because it fits well with the analogous case of apparent motion and partly to give the reader an indication of how the view works. However, as I have already mentioned, different B-theorists may think that different parts of the B-structure are responsible for our experience. They should replace my use of 'B-structure' or 'variation across times' with some other suitable primary quality, now that they can see how the view works.

the experience is veridical. Given this, I think that projectivism is a plausible account of our experience.

3.8: Prosser's Objection

In contrast to projectivism just discussed, Simon Prosser argues that projectivism is not a viable option. Prosser's discussion of projectivism in *Experiencing Time* (2016) is brief, as it is not the main focus of the chapter in which it appears, nor of his book overall. Instead, projectivism is only mentioned in his argument for the view that we illusorily perceive objects as enduring through change when really they are perduring.[35] Despite this, Prosser makes clear that he rejects projectivism (p. 167).

Earlier in his book, Prosser argues for intentionalism or representationalism – the view that our experience must have representational (mind-independent) content. In particular, Prosser defends a version of reductive representationalism. He holds that the phenomenal character of experiences (what it feels like to us to have a given experience) are reducible to some mind-independent representational content (p. 93). Prosser's objection to projectivism, then, is that it is incompatible with reductive representationalism.

Recall that, on projectivism, our experience is not reducible to mind-independent representational content. Instead, our phenomenal experience is explained by mind-independent representational content and projected onto worldly objects. That is, it is not that our phenomenal experience is really an experience of mind-independent B-structure, as is the case on representationalism. On projectivism, it is that the experience of phenomenal passage, while is partially explained by the B-structure, is an experience of mental features. It is these

[35] Endurance is the view that the same object endures through change, while perdurance is the view that an object changes by having different temporal parts at different times. See Noonan (1980), Lewis (1986), and Effingham (2012) for more information about the persistence literature.

mental features, then, that are projected onto objects and illusorily perceived as existing mind-independently. However, because they do not exist mind-independently, but are solely mind-dependent or mental, they do not have any mind-independent representational content. Projectivism, then, is incompatible with Prosser's representationalism.

I will not go into detail about Prosser's reasons for subscribing to his version of representationalism as it is not my goal to argue for or against his views. I will also not argue against his conclusion that representationalism is incompatible with projectivism. That is except to say that I am sure some version of representationalism could be cashed out in such a way that it is compatible with projectivism. Perhaps this would involve pairing projectivism with some non-reductive version of representationalism, whereby mind-independent representational content is a necessary part of phenomenal characters, even though the character of phenomenal experience is not reducible to mind-independent representational content.[36] Thus, it seems at least plausible that a version of projectivism could hold that representational content is an essential or necessary part of our phenomenal experience, that is projected onto the world.

However, even if such a line of argument is misguided, so that Prosser is correct that projectivism is incompatible with representationalism, there is still no reason for one not to be a projectivist unless it is accepted that representationalism is correct (or at least that Prosser's representationalism is correct). That is, if the projectivist just accepts that the claim that representationalism is false is just part of their view, then Prosser's objection should not matter. Of course, this may move some projectivists to provide an argument against representationalism. This would be prudent. However, it is not necessary, at least not for our

[36] Prosser does actually mention non-reductive representationalism and also thinks that it is incompatible with projectivism.

purposes. Going forward, then, I will just assume that it is part and parcel with an acceptance of projectivism that representationalism is false.

3.8.1: Another Objection to Projectivism

I just discussed an objection to projectivism that is aimed at those who already accept representationalism. I concluded that the objection is only problematic for those who subscribe to representationalism and that, therefore, the projectivist can move forward happy in their rejection of representationalism. I will now discuss another objection to projectivism that is sometimes called 'the intelligibility problem'.

When I look at a stick in a clear lake, it appears as though it is bent. That is, I perceive the stick as being bent. I know, however, that the stick is actually straight. And I know the stick is straight precisely because I can verify that the stick is straight. Even if I was unaware of the higher refractive index of water compared to air, which is also verifiable (even if not by me), I could still walk up to the edge of the water where the stick is and work out that it is not actually bent, even though it appears as though it is. My perception that it is bent is an error. And I know it is an error because I know that sticks are usually straight and I can work out that the stick being in the water in some way explains my illusory perception that the stick is bent.

Conversely, it does not seem as though I can do any such verification about what is actually the case versus what I perceive to be the case when it comes to my perception as of mind-independent dynamicity or temporal passage. I do not have any 'genuine' passage experience to compare my illusory experience to. But then how am I to know whether my experience is illusory? And how am I meant to know that my experience is an experience as of mind-independent temporal passage?

Put another way:

> *there is no such thing as passage; yet temporal experience is meant to involve the seeming presentation of passage. But how exactly are we to make it intelligible to ourselves what the latter is meant to come to? If there is really no such thing as the property of undergoing passage, how can we have any idea of what it would be for there to be perceptual illusions as of something having that property? Thus, it is not clear whether an error theory regarding temporal experience of the type proposed is coherent.* (Hoerl 2014, p. 190).

This objection seems pretty damning if it works. However, I am not sure it does. In fact, I am unsure how to make sense of it. To see why let us apply the same objection to necessary connection. The parallel objection would be that it is 'unintelligible' that we have an illusion as of necessary connection, given that we have never perceived the property of anything necessitating anything in nature. That is, given that we have never perceived necessary connection in nature, it does not seem like we could say that our experience is an illusion as of necessary connection. And this is because we have no idea what a genuine experience of mind-independent necessary connection would be like.

But this does not seem like a plausible objection to Humean projectivism. Hume takes himself to be giving an account of exactly where the idea of necessary connection comes from – from a misinterpretation of mental determination of one idea by another. That is, Hume's claim is not that, if we had a genuine experience of mind-independent necessary connection, our experience would be one that is phenomenologically identical to our experience of mental determination. The claim is that we do not perceive necessary connection and that the idea that we do arises because of our experience of determination. And that is the illusion.

Likewise, the intelligibility objection in the temporal case, in short, is that it doesn't make sense to speak of an illusory experience as of mind-independent temporal passage, when

we do not even know what our experience of real mind-independent passage would be like, because we deny that any such mind-independent passage exists. At first glance this does seem problematic for the projectivist. However, despite appearances, I do not think the projectivist subscribes to the view that our experience of dynamicity is phenomenologically identical to the experience we would have if mind-independent, A-theoretic, temporal passage really existed. And I think the intelligibility problem only applies to a view that includes such a claim.

Recall that the A-theoretic claims about passage are that, necessarily:

1. The features of temporal passage are identical to the features we experience.
2. Temporal passage involves certain A-theoretic features (the changing present moment, for example).
3. Temporal passage exists externally from our minds (mind-independently).

The projectivist then holds that the features described in claim 2 – e.g. that passage involves a changing present moment – seem to exist mind-independently to us. However, they hold that in actual fact there is no mind-independent cause of our experience that includes these A-theoretic features and that we illusorily perceive such features as existing mind-independently when they are really just features of our experience.

However, this is not to say that projectivists think that our phenomenal experience identically resembles what the character of our experience would be if such mind-independent temporal passage existed and caused our experience. This wouldn't make sense, as we could not know. For example, supposing that temporal passage, as the A-theorist describes it, really did exist and caused our experience. It is conceivable that our experience would be even more dynamic than it is now. But this would not be an experience that identically resembles temporal passage as the A-theorist describes it.

Conversely, the character of the dynamic experiences we have in the actual world do seem to identically resemble temporal passage as the A-theorist describes it. After all, that is meant to be the appeal of the A-theory – that it accounts for our experience by positing that the features perceived in our experience really do exist mind-independently and cause our experience. All the projectivist holds, then, is that the features of our experience, which identically resemble temporal passage as the A-theorist describes it, could not be an experience of mind-independent temporal passage, as the A-theorist describes it, because such a thing does not exist, or at least does not cause our experience.

And, given that it seems to us that our experiences of dynamicity are experiences of temporal passage, as the A-theorist describes it, it seems natural to hold that our experiences of dynamicity are illusions as of temporal passage, as the A-theorist describes it. But, as I have already said, the claim is not that our experience is an illusion as of whatever our experience would actually be like if mind-independent temporal passage were really the cause of our experience. The claim is only that our experience is an illusion as of temporal passage in the sense that our experience identically resembles temporal passage, as the A-theorist describes it.

The intelligibility problem, then, only applies to views according to which the illusion is as of the experience we would have if temporal passage really caused our experience. But this is not the illusion according to projectivists, nor any other error-theorists about our dynamic experiences as far as I am aware. The intelligibility problem does not hold. Projectivism, then, is a perfectly legitimate option for the B-theorist who wants to account for phenomenal passage as an illusion as of mind-independent passage.

Chapter 4 – Dispositionalism for the B-theorist

4.1: Preamble

The reader will recall that in the previous chapter I concluded that projectivism is an adequate account of our experience of phenomenal temporal passage. However, the view will only be appealing to the B-theorist who thinks that we are subject to an illusion each time we have experiences of phenomenal temporal passage. That is, the view will only be appealing to those B-theorists who think that, in order for our experience of phenomenal passage to be veridical, A-theoretic temporal passage must exist and be the cause of our experience.

In this chapter, then, I will discuss B-theoretic views which accept our experience as veridical. Specifically, I will look at the views of Natalja Deng and Lisa Leininger, who both argue that B-theorists can accept that time passes. This acceptance of passage on the B-theory does not involve altering the B-theorist's ontology but is, in a sense, a reclaiming of the word 'passage'. This in itself is not especially interesting for our focus, as this could still mean that our experience of phenomenal temporal passage is illusory. However, these versions of the B-theory involve an acceptance of our experience of dynamic phenomenal passage – if we do in fact have dynamic experiences – as part of our experience of B-theoretic passage.

However, I will argue that more is needed than what is provided by such B-passage views. That is, I will show that the goal of such views is not to provide an account of our experiences of phenomenal passage but to include a kind of temporal passage on the B-theory. As such, the views only include an account of our experience incidentally. Accordingly, I hold that such B-passage views are perfectly good options for the B-theorist wanting to include a kind of temporal passage. However, as my focus is on providing an account of our experience of phenomenal temporal passage, I think we need more. That is, I argue that we should endeavour to accept a view that not only accepts our experience of phenomenal passage as

veridical but also that accepts phenomenal temporal passage as a necessary feature of our experience of certain mind-independent features.

I will, therefore, discuss a view that I think allows the B-theorist to do this – dispositionalism. Dispositionalism is the view that temporal passage is the mind-independent disposition to result in our experience of phenomenal passage. After a discussion of the virtues of the view, by way of comparison to other views discussed in this thesis, then, I will conclude that dispositionalism is a good account of our experience as an expected consequence of our perception of the mind-independent disposition.

4.2: B-structure is Passage?

In 'The B-theory in the 20th Century' (2013), M. Joshua Mozersky states that 'if the 'later than' relation orders events and times, then it strikes me as *natural* to conclude that time passes' (p. 181). That is, if one time stands in the 'earlier than' relation to another time, it seems compatible even on the B-theory to say that in some tenseless sense that time 'occurs' before the other time. Further, if the B-theorist can accept that some times occur before other times and they accept that change is real, it seems as though they can accept that time passes. This kind of temporal passage, however, would clearly not be an accepted use of the word 'passage' by the A-theorist. Recall that, on the A-theory, mind-independent passage is held to identically resemble our experience of phenomenal passage. That is, the features represented to us as phenomenal passage identically resemble features that exist mind-independently, on the A-theory.

Conversely, on versions of the B-theory that include a kind of temporal passage, our experience of phenomenal passage does not identically resemble temporal passage itself. Instead, according to B-theorists, our experience of passage does not have the same features as

the way in which passage exists mind-independently.[37] The claim made by B-theorists who accept temporal passage is not that the B-theory can actually accept any A-theoretic features. In fact, the view changes nothing about the B-theory at the ontological level – that is, it involves an acceptance of the same features that all B-theorists accept. The thought, then, is simply that, because we have experiences of phenomenal temporal passage, and because those experiences must be explicable on the B-theory, it makes sense to hold that some mind-independent temporal passage exists.

That is, the claim made by these kinds of B-theorists who accept temporal passage 'is merely a claim about how to understand the B-theory and changes nothing substantive in the theory' (Mozersky 2013, p. 181). In short, then, versions of the B-theory that include temporal passage do so on the grounds that:

1. The A-theoretic account of passage is incoherent or lacking in some respect.
2. The best explanation of our experience is to hold that time passes.
3. The B-theory has an account of passage that is less dynamic than the A-theory but coherent.

That is, if we take our experience seriously (if we don't explain it away as illusory), and if we assume that the B-theory is right, then temporal passage just is what the B-theory offers. These claims, however, do not involve changing anything about the B-theory itself. In fact, the same underlying B-structure that is accepted by the projectivist is accepted by B-passage theorists also. That is, the same B-structure causes our experience on both the projectivist view and the

[37] This way of characterising the B-theory is similar to discussions by Torrengo (2017). However, while Torrengo ultimately posits a modifier view (according to which observers modify mind-independent features), he talks fairly extensively of reductionist B-theory views. This is the view according to which our phenomenal experiences are reduced to mind-independent B-structure. However, on reductionist views, it need not be the case that the mind-independent B-structure is considered temporal passage. In order to avoid confusion about these two B-theoretic views (one where temporal passage exists and one where it does not), I do not characterise the views of Deng, Leininger and others (see, for example, Mellor (1981), Maudlin (2002), and Mozersky (2013)) as reductionist views. However, I acknowledge that, on a broad conception of reductionism, what I call 'B-passage views' do count as versions of reductionism.

B-passage view. It is merely what the two kinds of B-theorists say about that B-structure that separates the projectivist from the B-passage theorist. That is, whether or not they think that our phenomenal experience is an illusion as of mind-independent features. The projectivist, of course, thinks that our experience is illusory, while the B-passage theorist denies this. The B-passage theorist simply does not allow the *A-theoretic* idea of passage to influence what the gets to count as passage.

As I've already mentioned in earlier chapters, this is similar to Jackson's (2014) location problem. That is, the problem of where to locate temporal passage in the B-structure. In answer to this problem, the B-passage theorist locates temporal passage within the B-structure by identifying temporal passage with some part of the B-structure (e.g. temporal order). Recall the example where solidness is a natural entailment of scientific facts about the distribution of molecules. Like this example, then, the B-passage theorist holds that, while temporal passage is not an explicit part of any B-structure, it is an implicit part of B-structure that is already accepted by B-theorists. Or so says the B-passage theorist.

4.3: Deng's Account

As I've already said, Deng is one such B-theorist who subscribes to something like this view. In 'Fine's McTaggart, Temporal Passage, and the A versus B-Debate' (2013a) she argues that, given that versions of the A-theory are unable to provide an account of passage that aligns with our intuitions, 'a B-theoretic account of passage that simply identifies passage with the succession of times is a serious contender' (p. 19). That is, she argues that passage not being adequately explained on the A-theory is a reason to give up on the A-theory and not temporal passage itself. This is because the A-theoretic explanation of passage is only not adequate when judged *according to the A-theorist's own criteria.* Further, because the B-theoretic account of passage is as 'inadequate' as the A-theorists account (i.e. when judged according to the A-

theorist's criteria), but does not go against the B-theoretic ontology, we should move towards an acceptance of the B-theoretic explanation of passage (Deng 2013a, p. 20).

Furthermore, in 'Our Experience of Passage on the B-theory' (2013b) Deng offers her account of passage, which she says just is succession – i.e. the fact that, on the B-theory, times are ordered in succession. Recall that, on the A-theory, times are distinguished from other times based on the A-properties that they have. Time passes, on this view, based on times successively becoming present. This, of course, is in contrast to what is meant by succession on this version of the B-theory. On the B-theory, times are distinguished from other times based on whether they are earlier or later than other times. And this temporal order of times, claims Deng, is what it is for times to be ordered in succession. Further, this successive temporal order is, according to Deng, itself based on causation. We can say that t_1 is distinguished from t_2 because t_1 is earlier than t_2. But what makes t_1 earlier than t_2 is that events at t_1 *cause* events at t_2. For example, that I feel pain in my toe at t_2 is a result of my stubbing my toe at t_1. Times are ordered, then, based on this process of causation. And this causal order just is what it is for times to be ordered in succession on the B-theory. Moreover, this successive order is just what it is for time to pass.

Furthermore, being that the B-theory accepts this succession relation, Deng argues that the way in which we experience this successive order of times can also be explained. She argues that the idea that we have numerous temporal perspectives – sometimes called the 'specious present' – is allowed on the B-theory. By this she means that, at each time, the experience we are having is had from the point of view of a unique temporal perspective that 'has a content that is largely characterised by the subject's tensed beliefs, perceptions and actions, memories and anticipations, at that time' (2013b, p. 715). These temporal perspectives, she argues, are then linked to one another, just as objective times are, by the relation of succession.

Deng argues that, because our temporal perspectives are explained by successively ordered times, certain aspects of the dynamicity of our experience – i.e. our experience of passivity with respect to time – can be accounted for on the B-theory. She argues that the B-theoretic conception of passage does in fact predict and explain our sense of passivity. She says that 'the reason [that we feel passive] is that what we can do is itself part of the causal order of events, and that order is also their temporal order' (Deng 2013b, p. 718). In other words, the order of times on the B-theory – i.e. the succession – is determined by the process of causation (which events cause other events).

Consequently, the order of our temporal perspectives is also determined by causation because, recall, those temporal perspectives are made up of the very same times which are determined by the causal order (along with tensed beliefs, memories, perceptions etc.). Deng thinks that given that our actions are restricted by this causal order, it is not surprising that we would feel a sense of passivity – a lack of control – in regards to time. That is, it is not surprising that our experience of passage would seem so dynamic to us in the sense that, if we assume something must be doing something and, given that we are passive, it cannot be us, it must be time itself. And it seems that this is completely veridical on the B-theory.

According to Deng, then, our experience of phenomenal passage just is our feeling of passivity with respect to time (i.e. the feeling that our actions are restricted by the temporal/causal order). However, our feeling of passivity is not temporal passage itself. Instead, temporal passage is the fact that times are ordered in succession.

4.3.1: Objections to accounts like Deng's

Levelled against these kinds of B-theorists – B-theorists who identify passage with some mind-independent B-structure – is the objection that the accounts offered are trivial. That is, all they accomplish is being able to refer to some features as temporal passage. But, if this

is the case, it does not seem like those who subscribe to such B-passage views have an account of our experience that is any better than B-theorists who do not label certain features as temporal passage. Something like this challenge to proponents of the B-passage view is discussed by Oliver Pooley in 'Relativity, the Open Future, and the Passage of Time' (2013). He says that:

> *in their claim to have successfully identified temporal passage in the block universe risks diverting attention from the key challenge that the B Theory faces, namely, that of providing a B-theoretic explanation of why we are inclined to take the 'becoming more past' of events as an objective feature of reality*. (p. 326).

As is suggested in the quote, Pooley thinks that the only property that is non-trivially deserving of the label temporal passage is one that include the real, objective, change in events as they recede into the past. I do not think this is the case. However, I do think that Pooley's point about B-passage views being trivial should be addressed by proponents of such views. That is, I will take Pooley's challenge to be one that can be adequately solved with a B-theoretic account for why it is that our experiences of phenomenal temporal passage are more dynamic in character than temporal passage itself. I think, then, that an intuitive account of temporal passage should include an account of our experience of phenomenal temporal passage as an expected result of perceiving temporal passage.

Take, for example, Deng's account again. She says that 'if there is dynamicity involved in our perception of succession, then it too is a veridical aspect of experience on the B-theory' (Deng 2013b, p. 725). For Deng, it is not so much that she accepts that there is dynamicity in our experience but more that *if* there is, then it is veridical on the B-theory. This is not any fault of Deng's account, as her goal is to include a kind of temporal passage on the B-theory and account for our experience, regardless of what that experience specifically involves. However,

it is clearly not as strong an account of our experience as the A-theorist provides.[38] Recall that the A-theorist accepts that our experience of phenomenal temporal passage is dynamic – i.e. has a certain animated character. That dynamicity of experience is then an expected part of perceiving mind-independent features, because they too include such dynamicity. In this sense, the A-theoretic account is simpler and more direct, and thus easier to see as explanatory. I think, then, that accounts of B-passage need some reason for our experiences of phenomenal passage having the dynamic character that they do. Our focus, then, should be on accounting for our experience.

4.3.2: Leininger's Solution to the Problem

In 'Temporal B-Coming: Passage Without Presentness' (2020), Leininger responds to this kind of challenge. Specifically, in response to Pooley's challenge, taken as a challenge against the B-theorist's ability to provide an account of our perception that times recede into the past, Leininger offers an account of B-passage whereby times do recede into the past. Her account of B-passage according to which time passes as times 'B-come' (are metaphysically privileged) by comparison to other times. That is, temporal passage is the fact that certain times are earlier than other times. Or, in other words, 'time passes by way of a continual change in what has B-come from earlier to later' (Leininger 2020, p. 15).[39]

So far, the view seems as though it accomplishes the same task as Deng's view. That is, it seems as though Leininger is focused on including a kind of temporal passage on the B-theory and not so much on providing an account of our experience whereby our experience of phenomenal passage is an expected outcome of temporal passage. However, Leininger's view is supposed to be set apart from other B-passage views precisely because it amounts to more

[38] Assuming that the A-theory can be formulated in a way that is conceivable, which I do not.
[39] Note that Leininger goes into much more detail motivating this account and pairing the view with Minkowski spacetime than I have the space to do in this thesis. The reader may also wish to consult Leininger (2013).

than just identifying B-structure with temporal passage. In fact, Leininger says that, unlike other B-passage views, her 'particular proposal does not, in fact, amount to a mere temporal ordering' (2020, p. 15). This is the claim that, contrary to Pooley's critique of versions of B-passage, time is passing by events moving into the past objectively and not merely subjectively.

Recall that Pooley's critique of B-passage is that it does not include an important part of our intuitions about passage; it does not include the claim that times become more past as time passes. Despite the fact that Leininger's account does not include a privileged present moment, she thinks that the view does include the claim that times become more past. And she thinks this precisely because, on the view, objects (that are temporally extended) gain and lose the relation of B-coming – the relation of being metaphysically privileged with respect to other times (p. 16).

4.3.3: Still Missing Something

I think that Leininger is right that her view escapes Pooley's objection levelled against B-passage views. However, I still think that, due to it being differently focused than our task in this thesis, it is still missing something. And that something, I think, is a reason as to why we have the experiences we do when there are no mind-independent features that identically resemble them. That is, we need an account according to which our experience of phenomenal temporal passage is an expected outcome of temporal passage itself.

So just what should such a view look like? I think that, ideally, we want our account of phenomenal temporal passage to be one by which our experience is a veridical part of perceiving mind-independent properties. That is, one that does not involve holding our experience is an illusion as of some other feature. So, I think we want temporal passage to have a location in the B-structure. This sets the view apart from projectivism. Thus, if one found

projectivism appealing then they probably would not think that such a feature is a requirement of a good account of our experience. B-passage views meet this requirement.

I also think that a good account of our experience of phenomenal temporal passage should be one according to which our experience is, not only not an illusion, but actually an expected outcome of our perception of certain mind-independent properties. By this, I do not just mean that it is plausible that certain features explain our experience of phenomenal passage, as this is already achieved by B-passage theorists. Further, this, I think, would allow for the possibility whereby the same mind-independent features exist and we do not have experiences of phenomenal temporal passage. Thus, I think we should aim for something stronger.

By our experience being an 'expected outcome' of our perception of mind-independent features, then, I mean something closer to what is required on an account of temporal passage by the A-theorist. Recall that our experience of phenomenal temporal passage is expected in the sense that it identically resembles mind-independent, A-theoretic, passage. An acceptance of this claim also means that the A-theorist does not have to account for possible cases where we have the same experience of phenomenal temporal passage even in a possible world where there is no mind-independent passage. This is because, on the A-theory, phenomenal temporal passage could only exist as a result of mind-independent temporal passage.

Unlike the A-theorist, I do not think that, to count as an expected feature of experience, phenomenal passage has to identically resemble mind-independent passage. This would be strange given that the B-theorist denies that any mind-independent property identically resembles phenomenal passage. However, I do think that the B-theorist should be able to provide an account of phenomenal temporal passage according to which we would not be able

to have that experience without the existence of certain mind-independent features. Thus, in the following sections, I will describe a view that I think achieves these things.

4.4: Dispositionalism

Dispositionalism is a view that, I think, is best cashed out in terms of primary and secondary qualities. As such, the view involves holding that certain properties that are experienced by us are either mind-independent, these are primary qualities, or response dependent, these are secondary qualities. But just what are primary and secondary qualities? Many properties (for example, size, shape and mass) but specifically, colour, are thought of in terms of primary and secondary qualities.

This is to distinguish properties that would exist, mind-independently, identically to the way we experience them from properties that would not identically resemble our experience of them if we were not here to perceive them. The former kind of property, primary qualities, are usually taken to be external and objective features of objects, such as size and shape (Byrne 2003, p. 3). Conversely, the latter kind of property, secondary qualities, can be defined as response-dependent properties, as the features they have is at least partially determined by the brain/mind and perceptual functions of the observer.

Another way of putting this is that secondary qualities are properties that are attributed to perceptual objects based on the experience prompted by them. Then, primary qualities are metaphysically defined in reference to objective features of objects. Conversely, secondary qualities are metaphysically defined in reference to the effects they have on normal observers. On dispositionalism, then, secondary qualities exist mind-independently. However, this is not to say that they exist in the same way as primary qualities. Instead, on the view, dispositions are causal powers to result in certain experiences.

Thus described, dispositionalism is usually associated with John Locke. In fact, in *An Essay Concerning Human Understanding* (1690) Locke says that 'whatever reality we mistakenly attribute to [secondary qualities], they are really nothing in the objects themselves but powers to produce various sensations in us' (Book 2, chapter viii, line 14). Contrary to the arguments of some[40], quotes such as these are usually thought to indicate that Locke was a dispositionalist about secondary qualities.[41] I will assume that Locke was a dispositionalist. After all, on the view, dispositional secondary qualities really are just powers that explain our phenomenal experiences, and that is what Locke seems to think they are also.

Locke argues that secondary qualities 'are, in the bodies we denominate from them, only a power to produce those sensations in us' (p. 101). This allows the dispositionalist to hold that colour exists, as dispositionalists hold that secondary qualities do exist mind-independently. That is, they can hold 'that colors are dispositions (powers, tendencies) to cause certain visual experiences in certain perceivers in certain conditions; that is, colors are psychological dispositions' (Byrne 2003, p. 3).

Following Locke, then, it seems that, while our experiences of dispositions (our experience of phenomenal colour) do not identically resemble the way the disposition exists mind-independently, we have an explanation of our experience that accepts the existence of colour. That is, on the view, 'colour' is merely the disposition to result in our experience of phenomenal colour, and not any property that identically resembles phenomenal colour itself.

For example, an object is seen as phenomenally red due to certain primary qualities of the object (e.g. the surface reflectance properties present on the surface of the object), causing sensations (the ability of the object to cause certain sensations in us), and due to a disposition

[40] See Boghossian and Velleman (1989) and Rickless (1997) for arguments that Locke was a projectivist.
[41] See, for example, Jonathan Bennet (1971).

to result in our experience of phenomenal colour. That is, certain primary qualities of any given object we see as phenomenally red, coupled with a disposition to prompt our experience of red, results in our experience of phenomenal redness (Hatfield 2007, p. 135).

Further, on my characterisation of dispositionalism, along with the primary quality, the dispositional secondary quality is also explained by the existence of an 'observer type'. This means that there is the possibility of an observer with certain brain/mind and perceptual functions. Then, when the secondary quality is experienced, if the actual observer is of the same type as the possible observer (the observer type), the secondary quality will give rise to certain experiences (the experience of phenomenal colour).

The existence of the observer type also allows the dispositionalist to account for perceptual errors. For example, suppose person *a* is colour blind and sees red objects as green and green objects as red. When person *a* sees a fire engine and perceives it as green, the dispositionalist can say that the experience is a perceptual error and they can say this precisely because of the existence of the observer type. That is, they can say that the actual observer in this case (person *a*) is not of the same type as the observer type that exists on the object, as they do not possess the same brain/mind and perceptual functions as the observer type. The experience of phenomenal greenness on a fire engine, then, is still an experience that is partially explained by the disposition. But it is not a veridical experience of both the disposition and the observer type. It is only when the actual observer aligns with the observer type, then, that it can be said that the experience is veridical of the disposition and the observer type.[42]

[42] Note that, without the existence of the observer type, and, one might think, even with the existence of the observer type, one would need to subscribe to, or at least respond to the view, that dispositionalism means that we are subject to continuous error about which phenomenal colour experience is a veridical experience of the disposition (whether we are meant to see green or red, for example). This objection to dispositionalism is discussed in Peacocke (1984).

Dispositionalism, then, is the view that our experience of phenomenal colour is explained by colour itself – it is just that colour is a disposition to result in our experience. However, unlike projectivism, dispositionalism is not offered as an account of some illusion. In fact, dispositionalists usually argue that our phenomenal experiences, while they do not identically resemble mind-independent colour, are explained by, and are expected outcomes of, our experience of the mind-independent disposition. Generally, then, the dispositional view can be represented in the following way:

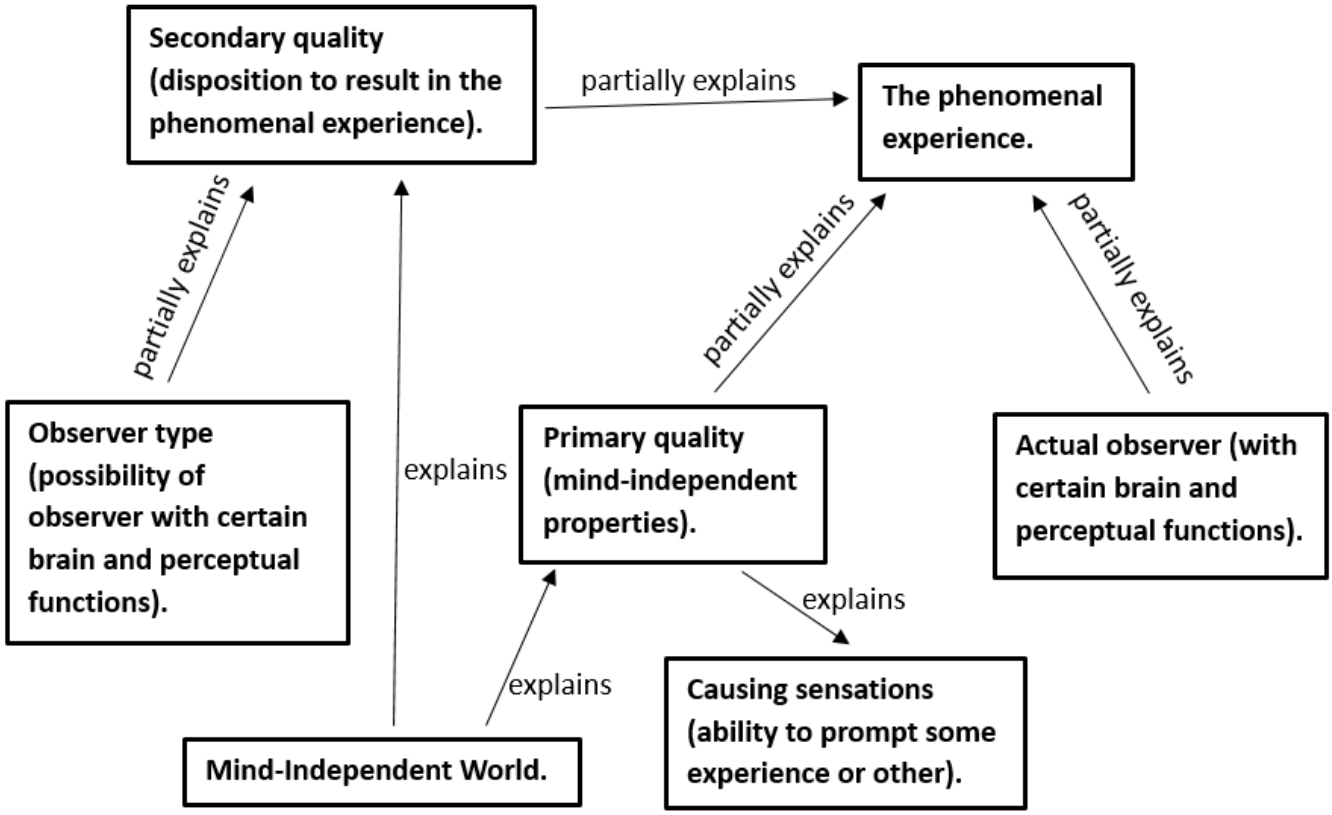

Figure 3. Dispositionalism.

It is clear from this image that, contrary to projectivism, our phenomenal experience is explained by the existence of a mind-independent secondary quality (in the form of a disposition). This is, as already explained, because dispositionalists hold that there is no

illusory aspect of our experience – we experience the secondary quality partially due to the existence of a dispositional secondary quality. That is, the secondary quality is the disposition to result in that phenomenal experience. And this is just what it is to be a response-dependent property, on the view.

At this point, one may wonder why it is that the disposition is labelled as the 'colour' when it seems as though the primary quality just as easily could be. If this line of thought is correct then it seems as though there could be multiple versions of dispositionalism, some of which do not involve holding that the disposition is the 'colour' or whatever property is being considered. This would be the kind of view whereby the disposition is still a partial explanation of our experience, even though it is not the colour itself.

While this view is certainly a possibility, it is not a version of dispositionalism, as I characterise the view. Dispositionalism, I think, involves the very specific claim that the 'colour', or whatever property is being considered, is the disposition. This way of cashing out the view is, among other virtues, just neater. It makes more sense to hold that the property that, when we perceptually interact with it, results in our experience of phenomenal colour is colour itself. On my dispositionalism, then, the primary quality, along with the brain/mind and perceptual functions of the observer, partially explains our experience of phenomenal colour. But they are not colour itself.[43]

[43] There is a side issue in the literature on dispositions in the philosophy of mind about whether dispositions are a cause of our experience (are causally efficacious). I will not discuss that issue here as I assume the view that, regardless of whether or not dispositions cause, they at least partially explain our experience. However, the interested reader should consult Block (1990) and Jackson (1995) for the view that dispositions are causally inefficacious. The reader should also consult Prior, Pargetter and Jackson (1982) for insights about how dispositions could still be involved in our experience (and possibly perceived) even if they are not causally efficacious.

4.5: Dispositionalism about Temporal Passage

So, now that we know what dispositionalism is, I turn to describing the view as it works in the temporal case.

According to the dispositionalist about temporal passage, our experience of phenomenal temporal passage is partially explained by the primary quality (some B-structure), partially explained by the brain/mind and perceptual functions of the observer, and partially explained by temporal passage itself. Temporal passage itself, then, is the secondary quality or the disposition to result in our experience of phenomenal passage.

As was the case with colour dispositionalism, the observer type (the possibility of an observer with certain brain/mind and perceptual functions) and the mind-independent world itself, partially explain the existence of the secondary quality (the disposition to result in our experience). This means that the mind-independent world includes a disposition to result in our experience. Then, the primary quality (some B-structure), the secondary quality (the disposition), and the existence of an actual observer with brain/mind and perceptual functions that align with the observer type explain our experience of phenomenal temporal passage.

The B-theorist dispositionalist, in accepting the same sort of framework as the dispositionalist about colour, can say that the mind-independent world explains the existence of the primary quality (temporal passage) and the existence of the secondary quality (the disposition). The secondary quality (the disposition) is also partially explained by an observer type. This ensures that the disposition results in the same experience each time if it is perceived by an observer with brain/mind and perceptual functions that align with the observer type. The secondary quality (the disposition) and the primary quality (some B-structure) each partially explain our experience of dynamicity.

4.5.1: Defining Temporal Passage on Dispositionalism

I have now explained how a B-theorist can include a kind of temporal passage in their ontology. Like the B-passage views already discussed, the dispositionalist locates passage within the B-structure. However, unlike B-passage views, the dispositionalist identifies temporal passage with the disposition and not the primary quality. This equips the dispositionalist with an account of both our experience of phenomenal passage and an account of temporal passage itself. However, one may still be left wondering exactly what it is for time to pass on dispositionalism. I will now explain how I think the dispositionalist should answer such a question by motivating the view even for those who deny colour dispositionalism.

We know that other animals, babies, and even adults in certain circumstances do not feel as though time is passing – i.e. do not have the experience of phenomenal passage. Does the B-theorist have to say that this because time is not passing? With dispositionalism in mind, I do not think so. Recall that, in the case of such circumstances like when I am asleep and do not experience phenomenal passage, the A-theorist holds that time is still passing in a way that identically resembles our phenomenal experience. And they hold this even for times when we do not experience phenomenal passage. That is, the A-theorist holds that there is an objective privileged present and that times are constantly and successively becoming present and then becoming past, even when we are not experiencing phenomenal passage. There is dynamic change, then, even when we do not perceive it.

But now that we have the dispositional view in mind I do not think such a view even seems intuitive anymore. Given what we know from cases of illusory motion detection discussed in the chapter 3, I cannot see why we would assume that our brain/mind and perceptual functions have no effect on the way in which temporal passage appears to us in experience. Further, in our example cases of being asleep or being a baby (and thus having

slightly different brain/mind and perceptual functions), the A-theorist accepts that our brain/mind and perceptual functions affect the experience we have. That is, the A-theorist, I assume, would not deny that something about our brain/mind state when we are asleep affects our perceptual abilities so much so that we do not have the experience of phenomenal passage, despite the fact that the cause of phenomenal passage, temporal passage, exists.

So, it seems that the A-theorist already accepts that in certain circumstances our brain/mind and perceptual functions affect the way that mind-independent temporal properties appear – that is, it can seem to us as though time is not passing at all. But if it is accepted that our brain/mind and perceptual functions sometimes affect the way we perceive mind-independent features, doesn't it seem strange to hold that in normal circumstances (for example, when we are not asleep) we perceive temporal passage as having exactly the features that it has mind-independently? Thus, I think it is much more intuitive to hold that our brain/mind and perceptual functions have a much larger role in our perception of mind-independent temporal properties in all circumstances. Accordingly, I think it makes more sense to hold that temporal passage is a disposition.

On the view, then, temporal passage does exist mind-independently but not in a way that identically resembles our experience of phenomenal passage. And this, I think, is as it should be. It seems intuitive to hold that time would pass even if we were to have no concept of A-properties (pastness, presentness, and futurity). And it seems intuitive to hold that, given that our brain/mind and perceptual functions affect our perception of temporal passage, temporal passage does not identically resemble phenomenal passage. Thus, according to the dispositionalist, necessarily, time passes if and only if mind-independent reality grounds the existence of a power to produce dynamic sensations of phenomenal passage in observers like us.

4.5.2: Dispositionalism and A-properties

Given that dispositionalism accepts that there is mind-independent temporal passage and that our experience of phenomenal passage is completely veridical, one may wonder whether dispositionalism is, in effect, a kind of A-theory. That is, one may wonder whether temporal passage, on dispositionalism, is an A-property. I will explain why I deny that this is the case in the following section. Specifically, I will look at a dispositional view that accepts some A-properties, Berit Brogaard and Dimitria Electra Gatzia's response-dependent account of passage in 'Time and Time Perception' (2015). I will conclude that their account concedes too much to the A-theorist.

Brogaard and Gatzia argue that *all* A-theoretic properties are secondary qualities that are caused by B-theoretic primary qualities. This means that tensed facts, the privileged present and the dynamic passage of time would be categorised as secondary qualities that we experience as a result of experiencing tenseless moments of time (Brogaard & Gatzia 2015, p. 259-260). Despite the acceptance of A-theoretic properties, Brogaard and Gatzia claim that this account is compatible with the B-theory.

This is because, while the A-properties emerge from the B-theoretic properties, 'A-theoretical properties exist but not as fundamental or irreducible properties' (Brogaard & Gatzia 2015, p. 258). That is, on this account, reality is fundamentally B-theoretic. However, our experience of A-properties can still be said to be veridical as they emerge from fundamental B-theoretic properties. A-properties exist, then, as *emergent* properties. An emergent property is one that is made up entirely of fundamental, non-emergent properties, but is somehow distinct from those properties – i.e. such properties 'emerge' from fundamental properties. For this reason, emergent properties are sometimes considered fundamental, yet dependent (Barnes 2012, p. 900). The view, then, is that we can accept A-properties (pastness, presentness, and

futurity), as the A-theorist understands them, but as dispositional properties grounded in B-structure.

But why would we want to do this? That is, I'm not sure it even makes sense to hold that there could be A-properties when we can give a complete B-theoretic description of reality. For example, in the case of the A-property of presentness or nowness, the disposition which grounds my experience of the supposedly privileged present is one that exists at every time on the B-theory. But this means that every time is objectively now if this really is the A-property of presentness. So presumably this cannot actually be the A-property. But, on Brogaard and Gatzia's account, the disposition is an A-property.

So, then it seems that the proponent of Brogaard and Gatzia's dispositionalism would have to hold that the disposition, as an A-property, is different to the A-properties described by the A-theorist. It simply gets to count as an A-property because it gives rise to A-theoretic experiences (of phenomenal passage). But, if the disposition is unlike A-properties accepted by A-theorists, it seems strange to even call it an A-property, especially when the account is supposed to be B-theoretic. Therefore, I think it makes much more sense to subscribe to the view that the disposition accounts for our experience of phenomenal passage and that this account is entirely made up of B-theoretic properties. There is nothing A-theoretic, then, about mind-independent or mental properties.

And this just is dispositionalism as I have described the view. This kind of dispositionalist goes further than Deng and Leininger do in trying to account for dynamicity. But the view does not go as far as Brogaard and Gatzia do in providing such an account. That is, unlike on Brogaard and Gatzia's view, I think that the dispositionalist's aim is not to identify the A-properties, as A-theorists understand them, with dispositional properties grounded in B-

structure. Instead, the aim is to identify the cause of our experience of dynamicity and, in doing so, locate temporal passage within the B-structure. And there is nothing A-theoretic about that.

4.5.3: Virtues of the View

Earlier, I explained why I think I have no reason to reject the views of Deng, Leininger and other proponents of some kind of B-passage. This is because they provide good accounts of temporal passage on the B-theory. However, I also said that, probably because the views are not so much focused on our experience, the accounts are still missing something. Specifically, I think they are missing a strong enough explanation as to why it is that we have experiences of phenomenal temporal passage. That is, I think the B-theorist is in need of an explanation of why our experiences are so dynamic, when the B-structure that is identified as temporal passage is not. I think my discussion of dispositionalism has fairly clearly shown that such an explanation is possible on the B-theory. That is, I think I have shown how the B-theorist can hold that our experience of phenomenal passage is an expected outcome of temporal passage, by holding that temporal passage is a disposition. In this section, I will make this even clearer by comparing dispositionalism with both projectivism and B-passage views.

Unlike on projectivism, on the B-passage view and on dispositionalism, the fact that reality seems to us to be more dynamic than it is mind-independently – that is, the fact that reality really seems to be changing in the dynamic, A-theoretic sense – is not due to any illusion which we project onto the world. Instead, our more dynamic experience just is what it is for us to experience both the primary quality and the secondary quality. Furthermore, on dispositionalism, it is not just that our experience is explained by the disposition and the primary quality. It is also that it is expected. The secondary quality is a disposition to result in our experience. This means that, so long as our brain/mind and perceptual functions align with that of the observer type, we just could not have any other experience. Our dynamic experience,

then, is a completely veridical and expected consequence of both the primary and secondary qualities.

Conversely, that our experience is dynamic is not an expected consequence of perceiving reality on the B-passage view. Recall that all that is accepted by B-passage theorists is that there is some B-theoretic structure (e.g. temporal order) that causes our experience. That B-structure, then, is temporal passage, in virtue of it being the cause of our experience. Our dynamic experiences are ones of temporal passage. But there is nothing about that B-structure itself that indicates that our experience would be dynamic. It seems surprising, then, that we have experiences of phenomenal temporal passage. That is, it seems just as likely that our experiences would not be dynamic. This element of surprise and unlikeliness does not have to be accepted on the dispositional view, while it does have to be accepted on the B-passage view.

Moreover, the dispositionalist can also account for possible worlds where we have the same experience of dynamicity even though the primary quality is unlike the primary quality we experience. For example, suppose that, instead of some B-structure, this is a world where there is only one time. There is no variation across time, everything remains exactly the same. Suppose that individuals in this world experience phenomenal passage in exactly the same way we do. That is, it seems to them that time is passing. Theorists who think that the disposition is temporal passage can answer that it is because the same disposition is present in such a world. That is, we can say that the primary quality, some frozen structure, causes the dynamic phenomenal experiences of the inhabitants in the world. But this is due to the disposition to result in phenomenal passage. Time is passing, in such a world, in the same way that it is here, in the form of the disposition. What differs, then, between the two worlds is the primary quality.

I think that dispositionalism also fares better in other cases of misperception due to the existence of the observer type. For example, we sometimes feel as though time is passing at a

faster or slower rate than it usually is. We of course consider such an example to be a case of misperception – that is, we ordinarily think that there is some error involved. On B-passage views, it seems difficult to provide an answer to such cases. How are we to know whether the experience of time as passing at the faster rate is the case of misperception or whether the experience of time as passing at the slower rate is when we have nothing to guarantee that our experience is the same each time it is had?

On the other hand, with a disposition, we can say that reality is disposed to result in our experience of time passing at rate *x*. Then, if our experience is one where time seems to be passing at rate *y*, we can say that this is due to something about the observer. One possibility is that the observer is not equipped with the right kind of brain/mind and perceptual functions at that time. Perhaps, for example, the observer is very anxious and this anxiety is affecting their brain/mind and perceptual functions so that time seems to be passing much faster. This, clearly, is a case where the actual observer is not aligned with the observer type.

Similarly, the existence of the observer type also enables the dispositionalist to account for our lack of experience at times. For example, to account for the case of when I am asleep and I am not experiencing any dynamicity, the dispositionalist can again use the existence of the observer type. They can say that my being asleep does not equip me with the same brain/mind and perceptual functions as the observer type, thus explaining why my experience does not align with the disposition. In both of these cases, the primary quality, secondary quality and observer type remain the same no matter what our experience is. It is the actual observer (our brain/mind and perceptual functions), then, that is responsible for any case of misperception. And you don't get this result so easily on B-passage views.

In this section, I have not attempted to argue against the B-passage views discussed in the previous chapter. Such a task would not make sense, as the B-passage views just have a

different goal than dispositional views and, I think, are compatible with dispositionalism (with some small adjustments about what passage is). The purpose of B-passage views, is to identify 'temporal passage' with whatever causes our experience of time, whether or not that experience includes some dynamicity. The comparison of such B-passage views with dispositionalism, in this section, is not comprised of an argument against the B-passage theorists' ability to do this. In fact, I think the B-passage view is a perfectly good account of temporal passage on the B-theory. My goal, then, is to show that, if we focus on our experience first, there is a more suitable place to locate temporal passage. Accordingly, the view whereby temporal passage is the disposition, I think, is just able to give the more intuitive answer about what is going on in certain cases of time perception.

However, I do not think this means that the B-passage view and dispositionalism are in competition with one another. Dispositionalism just has a different goal from the outset. The dispositionalist is focused on providing an account of our dynamic experiences of phenomenal passage, while the cause theorist is focused on providing an account of temporal passage, whether or not we have dynamic experiences. It is in this sense, then, that the views are not even incompatible with one another. Dispositionalism, then, is a way of accepting the B-passage theorist's ontology and finding a slightly different location for the property of passage than they do – but which is compatible in some sense with their views. I vote, then, that the B-passage theorist who wishes to take our experience of phenomenal passage as a necessary component of having certain brain/mind and perceptual functions and experiencing certain mind-independent features adds dispositionalism to their account of temporal passage.

Thesis Conclusion

The goal of this thesis has been to demonstrate that the B-theorist can equip themselves with an adequate account of our experience of phenomenal temporal passage. I take the assumption, that we have such experiences of phenomenal temporal passage, as true. I, therefore, think that any theory worth accepting should be able to provide an explanation for why it is that we experience time in the way that we do – i.e. why it is that we have experiences of phenomenal passage.

After the introductory chapter, then, I began the thesis proper with a discussion of a worry about language and the B-theory. This is the worry that there is no point trying to account for our experience on the B-theory, as the theory does not even have an adequate account of our use of tensed expressions in tensed sentences or, relatedly, of our tensed beliefs. As I explained, the fact that we use tensed expressions is usually accounted for, by the A-theorist, by holding that tensed sentences express tensed propositions. That is, A-theorists think that the truth values of propositions expressed by tensed sentences change over time. So that, for example, the sentence 'Nixon is president' can be truthfully uttered in 1970 because the proposition it expresses is true. Conversely, the sentence 'Nixon is president' cannot be truthfully uttered in 1975, even though it expresses the same proposition as that in 1970, because the proposition it expresses is no longer true in 1975. It is thought by the A-theorist, then, that in the B-theorist's commitment to propositions retaining their truth values eternally, the B-theorist has no adequate answer for why it is that tensed sentences can only be truthfully uttered at some times and not others.

The thought, I argued, that the B-theorist has no adequate account of our use of tensed sentences, is simply untrue. In fact, I showed that the B-theorist actually has the more intuitive account. For example, when I utter 'Nixon is up to no good in the White House' in 1970 and

believe the proposition it expresses to be true, it does not seem like my belief about Nixon being up to no good in the White House in 1970 has changed when it is 1975. That is, while I wouldn't express the proposition with the sentence 'Nixon is up to no good in the White House' in 1975, it still seems like my belief about Nixon being up to no good in the White House in 1970 is the same. Given this, I think it is more intuitive to suppose that the truth values of propositions remain fixed, but that we just cannot express those propositions using the same sentences. To explain why it is that we use tensed sentences, then, I think the B-theorist should appeal to a contextualist account, whereby tensed expressions are dependent on the context of utterance – i.e. the time at which the tensed sentence is uttered.

However, as I explained, even with the context-sensitive account in place, the B-theorist is still lacking an adequate explanation of our tensed beliefs. That is, the problem of why it is that we seem to believe the truth of a tenseless sentence at times when we do not believe the truth of a tensed sentence that is meant to express the same proposition. For example, it seems that I can know that 'the meeting starts at noon' is true and not know that 'the meeting starts now' is true. This, says the A-theorist, indicates that there are tensed propositions, as tensed sentences express different propositions to that expressed by tenseless ones.

However, as I explained in the chapter, the B-theorist has two adequate responses to this problem. They can subscribe to a Kaplanian view about characters of propositions or they can subscribe to a Lewisian story of centred worlds. The former view involves holding that, while tensed and tenseless sentences express the same proposition, we can come to believe those propositions in different ways. So, for example, I can come to believe that the character of the proposition expressed by 'the meeting starts at noon' without coming to believe the character that is expressed by 'the meeting starts now'. This view, I think, is a perfectly adequate solution to the problem. But B-theorists could also subscribe to the second view mentioned, which I think is also perfectly adequate.

This is the Lewisian view whereby the content of our attitudes, like beliefs, are not propositions but properties. While a proposition is a set of possible worlds, a property is a spatial location, a temporal location, and an individual within a possible world. The B-theorist who subscribes to this view can say that the tensed sentence 'the meeting starts now' and the tenseless sentence 'the meeting starts at noon' do express the same proposition. However, the reason we can believe that one is true without believing that the other is true – i.e. the reason we can believe that they express different propositions – is because the content of our belief is not a proposition but a centred world.

This means that the content of my belief that 'the meeting starts at noon' could be a specific possible world, The University of Adelaide, 11am on August 10, 2020, as myself at that time. As this belief is tenseless, though, the specific time of the belief does not matter much – I could have the same belief at 10am on August 10, or on August 9, etc. But this is not the case for the tensed belief 'the meeting starts at noon'. The content of that belief has to be at the specific time of 12pm, on a particular date, at a particular place – that is, I need to know that noon is *now*. And we can explain this seemingly A-theoretic fact with the use of centred worlds. We can say that he tensed belief 'the meeting starts now' is only held at a specific centred world, while the tenseless belief 'the meeting starts at noon' can be held at more than one centred world. So, it seems the Lewisian also has an answer to the problem of tensed belief.

As I said in the chapter, all that matters for our purposes is that the B-theorist has an answer to this problem. I am happy, then, for the reader to subscribe to either the Kaplanian solution or the Lewisian solution. However, as I argued, the B-theorist also needs an account of our tensed experience. That is, an explanation of why it is that we think that propositions are tensed or why it is that we have tensed beliefs – that is we need an explanation of why it is that time seems to be passing. The A-theorist, of course, has an account of our tensed experience. They

say that we have tensed experiences because reality is tensed. That is, they think that time is passing in the sense that, necessarily:

1. The features of temporal passage identically resemble the features we experience.
2. Temporal passage involves certain A-theoretic features (the changing present moment, for example).
3. Temporal passage exists externally from our minds (mind-independently).

Such an account explains phenomenal temporal passage (our experience) by positing that there is a mind-independent property that has the same features as that which is represented to us in experience. That is, phenomenal temporal passage identically resembles mind-independent temporal passage.

In chapter 3, I argued that the B-theorist who holds that we are subject to the illusion that our experience of phenomenal temporal passage is an experience of mind-independent features still has an adequate account of our tensed experience. That is, they should subscribe to projectivism. Projectivism is the view according to which our experience of phenomenal temporal passage is partially explained by the perception of some mind-independent B-theoretic structure. On the view, it is also held that we project our experience of phenomenal temporal passage and mistake it for existing mind-independently. However, this is an illusion, as phenomenal temporal passage exists, as far as we know, only as a mental property. I described three different versions of projectivism. The first, error-theory, is the view according to which temporal passage does not exist at all (because, in order to exist, it must be mind-independent). The second, mind-dependence, is the view according to which temporal passage exists but as a property of our mind. And the third view, sceptical realism, is the view according to which temporal passage may exist mind-independently but that it is not a cause of our experience of phenomenal passage.

On each of these versions of projectivism, our tensed experience or, in other words, our experience of phenomenal temporal passage existing mind-independently is an illusion. Nevertheless, I think it is pretty clear that the view still adequately accounts for our experience. That is, the projectivist can explain why it is that we have the experiences we do without having to accept the A-theoretic conclusion that reality is somehow tensed. This, then, coupled with the fact that the B-theorist already has adequate accounts of tensed sentences and tensed beliefs, means that the B-theory is safe from such objections. However, projectivism will only be appealing to those B-theorists who are willing to accept that we are subject to massive illusion. For the B-theorist who is not willing to accept this conclusion, then, a different account is needed.

As I explained, there are already B-theorists who accept a B-theoretic version of temporal passage. Deng, for example, holds that temporal passage just is the fact that times are ordered in succession, based on cause and effect. That is, given that our experience of phenomenal temporal passage is caused by our perception of the causal order, Deng thinks that the causal order should be identified as temporal passage. Further, the idea on the view is that our temporal perspectives (our mind-dependent experience) are also ordered in succession as they are also a result of mind-independent causal order. However, while they are meant to account for our sense of passivity (or lack of control) with respect to time, these temporal perspectives are not equivalent to what I call phenomenal temporal passage. This is because Deng only holds that *if* there is any dynamicity in our experience of time, then it is accounted for on her view of B-theoretic temporal passage. On the other hand, it is just part and parcel with phenomenal temporal passage that there is dynamicity in our experience.

Following this kind of complaint, that Deng's sort of view is merely a trivial identification of some mind-independent B-structure as temporal passage, Leininger offers her own version of temporal passage on the B-theory. She argues that her account of temporal

passage as relational B-coming, in that each time is objectively present relative to other times, is not deserving of the criticism levelled against Deng's sort of view. Specifically, Leininger argues that her account of B-coming sidesteps the critique that B-theoretic accounts of temporal passage do not explain why it is that temporal passage seems to us to involve events becoming more past. This worry, levelled against the B-theory by Pooley, is avoided, according to Leininger, because her account of B-coming does involve times becoming more past. This is because times become more past relative to other times. So, the worry is solved for the B-passage theorist.

I do not think there is anything wrong with Deng or Leininger's accounts of temporal passage on the B-theory. However, perhaps similarly to Pooley, I think there is still something missing from the accounts. As I already explained in chapter 4, I think that we need an account of, not only temporal passage on the B-theory, but also of our experience of phenomenal temporal passage. Specifically, I think we need an account of phenomenal temporal passage that takes that experience seriously – i.e. that accepts that we do have such dynamic experiences – and one that accounts for our experience as an expected outcome of mind-independent features. I think that a dispositional account allows the B-theorist to achieve this. Dispositionalism is the view according to which temporal passage is a mind-independent disposition to result in our experience of phenomenal temporal passage.

According to the view, then, temporal passage is a disposition to result in our experience of phenomenal passage. Our experience is an expected outcome of mind-independent features, then. The view also seems more satisfying than other B-theoretic versions of passage because it does not just identify passage with whatever mind-independent B-structure exists – that is, the view could not be deemed trivial by opponents of other B-passage views. This is because, on the view, B-structure, is a primary quality that partially explains our experience of phenomenal passage. But, unlike on both Deng and Leininger's

views, B-structure is not temporal passage itself. Temporal passage is a mind-independent secondary quality (or disposition) that also partially explains our experience.

Moreover, the view is also able to adequately account for cases of misperception better than B-passage views thanks to the existence of an observer type. That is, the view involves holding that there is also a mind-independent observer type. Our experience is only one of genuine passage, then, when our brain/mind and perceptual functions align with that of the observer type. So, for example, when one feels very anxious so that time seems to be passing very quickly, it can be said that this is because their brain/mind and perceptual functions, affected by their anxiety, do not align with that of the observer type. They still have some phenomenal experience, though, because they still perceive the primary quality and the disposition.

So dispositionalism is not a trivial account, explains our experience of phenomenal temporal passage as a veridical result of perceiving mind-independent properties, and explains cases of misperception. These seem like pretty good reasons to subscribe to the view. Further, as I said, the view does not exist in opposition to either projectivism or the B-passage views of Deng and Leininger, at least not in the sense that only one of the views accounts for our experience. All of the views account for our experience.

Projectivism is an account for the B-theorist who thinks that we illusorily perceive phenomenal temporal passage as existing mind-independently. B-passage views offer accounts for the B-theorist who wants to identity temporal passage with something B-theoretic. And dispositionalism is an account for the B-theorist who holds that phenomenal temporal passage is a veridical experience of temporal passage. Each of the views, I think, allow the B-theorist to adequately account for our tensed experience. As this was my goal and as the views are targeted towards B-theorists with different prior assumptions, I cannot really comment on

which view is best. I have simply explained the accounts available to B-theorists with these prior assumptions. However, in saying this, I think I have made clear that, for me, dispositionalism is the most intuitive of these views.

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