**The four Ps: Presentism, Passage, Phenomenology and Physicalism**

**Abstract**

Temporal dynamists argue that we should believe that there exists temporal passage because there being passage is the best explanation for the presence of our temporal phenomenology. Presentists argue that presentism is the best (and perhaps only coherent) version of temporal dynamism. Therefore, conditional on us accepting temporal dynamism, we should accept presentism. In this paper it is argued that if we understand temporal passage as the presentist does, such an argument can succeed only if dualism is true. Thus, we conclude, either presentists should embrace dualism, or they should reject any argument for presentism that proceeds via any argument for temporal passage which in turn proceeds via considerations of what best explains our temporal phenomenology.

**1. Introduction**

In the metaphysics of time there are arguments that proceed from various purported aspects of our phenomenology to certain metaphysical conclusions. The argument from temporal phenomenology proceeds as follows:

*Argument from Temporal Phenomenology*

1. We have experiences as of the passage of time.
2. If we have experiences as of the passage of time, then any reasonable explanation for this relies on the passage of time being an objective feature of reality.

Therefore:

1. The passage of time is an objective feature of reality.[[1]](#footnote-1)

Experiences *as of* the passage of time are experiences with a certain content. They represent that the world is a certain way: namely that it is a way such that there is temporal passage. This leaves it open whether or not there is any passage that these are experiences of, and thus whether the experiences are veridical or not. The argument from temporal phenomenology attempts to reach a fairly general conclusion: namely that temporal passage is an objective feature of the world. Call those who accept this conclusion, *dynamists*. Dynamists hold that the passage of time consists in the fact that a single moment of time is the objectively present one, and which moment that is, changes. Those who reject (C) we call *non-dynamists*.[[2]](#footnote-2)

 Dynamism is a broad church. Metaphysically speaking, there are various ways the world could be, that are consistent with dynamism thus defined. Versions of the growing block view[[3]](#footnote-3) (according to which moments in time accrete to an existing static four-dimensional block), the moving spotlight view[[4]](#footnote-4) (according to which there is a moving present in an otherwise static four-dimensional block) or the dropping branches view[[5]](#footnote-5) (according to which future possible branches are real, and ‘drop’ as a single moment becomes the unique objectively present one) all count as dynamical theories. But these will not be our focus.[[6]](#footnote-6) Our focus will be on what is arguably the most popular dynamical view: presentism.[[7]](#footnote-7)

Firstly, presentism is the view that only present objects, property instantiations, and events exist. Presentism is a popular version of the dynamical theory because it is immune to McTaggart style arguments that attempt to show that if objects/events change from being future, to being present, to being past, then either some incoherence ensues, since the very same object/event must have all three designations, or there must be some vicious regress whereby we relativise the having of those designations to further designations of being past, present or future.[[8]](#footnote-8) Since for the presentist, only the present exists, she need not admit the designations of past or future, and certainly need not say that any set of events or objects that exist have those designations.

Second, presentism is immune to certain epistemological worries that beleaguer other dynamical theories. Dynamical theories suppose that there is an objectively present moment, and that which moment that is, changes. Any dynamical theory that admits the existence of non-present moments is, then, faced with the difficulty that which moment is *objectively* present can come apart from which moment is *indexically* present. That raises the sceptical worry that it seems as though we do not know, or cannot be justified in believing, that we are in the objectively present moment rather than merely located in the indexically present moment.[[9]](#footnote-9) Non-dynamical theories reject the claim that there is a metaphysically privileged present, holding instead that there is only an indexical notion of presentness (and thus we can be quite sure that when we believe we are in it, we are). Presentism, amongst all the dynamical theories, is the only theory that is well placed to explain how we can be sure we are indeed in the objective present: because conditional on presentism being true, there is only one moment for us to be in; the objectively present one.

 Thus the presentist can offer the following argument from temporal phenomenology, to the conclusion that presentism is true.

*The Presentist**Argument from Temporal Phenomenology*

1. We have experiences as of the passage of time.
2. If we have experiences as of the passage of time, then any reasonable explanation for this relies on the passage of time being an objective feature of reality.
3. Therefore, the passage of time is an objective feature of reality.
4. Presentism is the best metaphysical theory that is consistent with the passage of time being an objective feature of reality.
5. Therefore, if temporal passage is an objective feature of reality, then it is as described by a presentist theory.
6. If temporal passage is as described by the presentist theory, then presentism is true.
7. Therefore, presentism is true.

While there are various places one might object to the argument, above (for instance, in the move from (d) to (e)) in this paper we will principally be interested in showing that the truth of (a) and (e) are inconsistent given certain other plausible assumptions. In particular, our aim is to explicate a number of ways that the presentist can conceptualise temporal passage, and then to argue that on any of these, conditional on physicalism being true, temporal passage makes no difference to our temporal phenomenology. But if the presence of what we might call *presentist passage* (as per (e)) makes no difference to our phenomenology, then either (a) is false, for we do not in fact have experiences as of passage at all, or, even if we do have experiences as of passage, those experiences give us no reason to suppose that there is temporal passage, and hence (b) is false. Thus the presentist who wishes to use the presentist argument from temporal phenomenology must endorse dualism; alternatively, the physicalist presentist must reject the presentist argument from temporal phenomenology. To that end, this paper will focus on defending the following argument:

*Argument against the evidential role of presentist temporal passage*

1. For experience to provide evidence of temporal passage, it must be that the presence of temporal passage makes a difference to our temporal phenomenology (i.e. to its phenomenal character).
2. If physicalism is true, it is not the case that presentist temporal passage, (i.e. temporal passage as understood by the presentist), makes a difference to our temporal phenomenology.
3. Therefore, if physicalism is true, our temporal phenomenology provides no evidence for the presence of presentist temporal passage.

The bulk of the paper lies in defending (ii), for, we think, premise (i) is *prima facie* plausible. Before we do so, however, some clarifications about temporal passage and the types of differences it may make, are in order. We turn to these in the next section.

**2. Contentful States and Phenomenology**

There are various accounts that the presentist might offer regarding what temporal passage consists in. But whatever passage consists in, we think, she must tell some story about how the existence of said passage connects with the content of our temporal phenomenology such that the latter is evidence for the former. In the following sections we consider, in more detail, the various ways in which the presentist might spell out what passage consists in. For now, however, we can just note that temporal passage, and the movement of presentness, might be such that it makes a qualitative difference to the way the world is, or it might not. We will say that temporal passage makes a qualitative difference if it makes an *in principle observable, measurable, or experiential, difference to how things are.*  By contrast, temporal passage makes a non-qualitative difference if it makes no in principle observable, measurable, or experiential, difference to how things are. Identity or haecceitistic properties are paradigmatically non-qualitative. They make a difference to how things are (with respect to identity facts) but that difference is not in principle observable or experiential.

If presentist passage makes a qualitative difference to how things are, we can ask whether the difference it makes is a *physical* one. Here, we assume that physical properties are those that are in principle detectable by scientific methods. Thus physical properties are causally efficacious properties; we detect them (at least in principle) by their effects. Temporal passage makes a physical difference to the way things are only if it makes a difference to the instantiation of *physical* properties and hence only if it makes a difference that is in principle detectable through scientific method.

Making a physical difference is not the only way temporal passage can make a difference. Suppose one is a dualist; then one might suppose that a property that enters into the supervenience base of an experience can be a difference maker to the phenomenal character of that experience, even if that property is causally inefficacious and hence not physical. That is, one can suppose that the character of some experience would have been different, had its supervenience base been different, where the supervenience base would have been different had some non-physical property being absent from the base (or had some other non-physical property been part of the base, than is actually part of the base). This difference might be in principle scientifically undetectable, but nevertheless be experientially detectable. In such cases temporal passage makes a non-physical qualitative difference.

Since non-qualitative differences and non-physical qualitative differences make no physical difference to how things are, if presentist temporal passage can *only* make a non-qualitative or a non-physical qualitative difference, then it can make a difference to our temporal phenomenology *only if physicalism is false.* We will argue that presentist passage can indeed only make either a non-qualitative or a non-physical qualitative difference to our phenomenology, and, therefore, that it can only make any difference at all on the assumption that physical is false. That constitutes our defence of (ii) in the argument against the evidential role of presentist passage.

**3. Presentist Passage**

One way in which the presentist might understand temporal passage is to suppose that, in some sense, passage is intimately connected with real change. Here, we suppose that real change is not mere temporal variation. It is not the obtaining of one set of properties at one time, and a different set of properties at another time. Instead, real change involves not simply variation *within* the world, but change *of* the world. There are various ways in which presentists might model passage given that they take seriously this notion. It seems natural that they might so do by appealing to features already present in their metaphysics. The first option that suggests itself is to appeal to the existence of primitive past-tensed properties to model real change.

**3.1 Real Change and Primitive Past Tensed Properties**

Some presentists posit the existence of primitive past-tensed properties of the world to serve as truthmakers for past-tensed statements (Bigelow, 1996). According to such a view, the present moment makes all past-tensed propositions true by instantiating a set of primitive past-tensed properties. So, for instance, if it was the case that there existed dinosaurs, this is made true by the present moment instantiating the past-tensed property of it having been the case that dinosaurs existed.

The presentist could take this metaphysical framework and suggest that temporal passage consists in the accumulation of these properties. The sense in which passage is linked to real change is the sense in which the set of these past-tensed properties grows. There is not mere temporal variation; the sum total of primitive past-tensed properties in the world grows. For if it was ever true that dinosaurs existed, it will always be true. But if it is not now true that there are killer robots, and at some future time it becomes true that there are killer robots, and later, that there were killer robots, then the world comes to instantiate a new past-tensed property—the property of being such that there were once killer robots—which it does not now instantiate.

The presentist could then suggest that passage consists in the growing membership of this set of primitive past-tensed world properties. Such a view looks a little like the growing block view, except that what grows is not the concrete world by accumulating time-slices, but the growing set of past-tensed properties.

On such an account of presentist passage, passage makes a non-qualitative difference to the way the world is. Although the relevant set of properties grows, the properties themselves are non-qualitative. We can see that for any present set of objects, events and qualitative properties, those objects, events and qualitative properties could have been present, and yet the past been different from what it actually was. That is, the very same set of qualitative properties could exist, yet the world that instantiates those properties could instantiate *different* past-tensed properties from the past-tensed properties it actually instantiates. For instance, we can imagine that things are qualitatively exactly as they actually are, but there were no dinosaurs: there are simply a bunch of ‘fake fossils’. Had ‘fake fossils’ existed instead of dinosaurs, the world would not instantiate the past-tensed property of being such as to once have had dinosaurs. Nevertheless, things would seem exactly the same way, since the present moment would be qualitatively identical in either case.

 Any sceptical presentist world — a presentist world in which the present evidence is misleading as to what the past was like — will be like this. Inhabitants of a sceptical presentist world will believe, for instance, that it presently instantiates the past-tensed property of there having been dinosaurs, but they will be wrong about this. If the presentist wants to allow that we might be wrong about the past, she has to allow that we cannot ‘read-off’ the past-tensed properties from the present. So she must hold that past-tensed properties are non-qualitative.

 So if presentist passage consists in the accretion of non-qualitative past-tensed properties, then presentist passage makes only a non-qualitative difference to the way the world is. That need not mean it makes no difference at all. Suppose dualism is true; then it might be that these non-qualitative primitive past-tensed properties whose accumulation passage consists in, make a difference to our temporal phenomenology by being in the supervenience base of our phenomenology. But if that is how they make a difference, they do so only given that physicalism is false. For those properties are most certainly non-physical: they are causally inefficacious, and in principle scientifically undetectable. So if these past-tensed properties do make a qualitative difference, that difference is non-physical: they make a qualitative difference only if physicalism is false. So one of two things is true: either presentist passage, understood in this way, can only make a non-qualitative difference, or it can make a qualitative difference only on the assumption that physicalism is false. If it makes only a non-qualitative difference, then it makes no difference to our temporal phenomenology, since by definition non-qualitative differences make no difference to the qualities of the world, including our experiences thereof. So (iii) is true. On the other hand, if it does make a qualitative difference, then it does so only on the assumption that physicalism is false. Thus (ii) is true. So given either option, (ii) is true if presentist passage is as just described.

**3.2 Ersatz Presentist Passage**

How else, then, might the presentist model temporal passage? A second option presents itself when we consider other versions of presentism; for instance, ersatz presentism. According to ersatz presentism, past (and perhaps future) times exist (Markosian, 2004). The difference between past (and future) times, and the present time is that only the present moment is “concretely realised”. While other times exist, they are not concretely realised: they are abstract ersatz times. These ersatz times are composed of propositions that provide a complete description of what is true at a particular time. Importantly, such times can be organised into an ersatz B-series (Crisp, 2007), and in this way, each time is linked by an ersatz temporal relation. These ersatz times are truthmakers for past (and perhaps also future) tensed statements.

On one version of ersatz presentism, only past times exist, and future times do not. The present moment is the only moment that is concretely realised: it sits at the border between past ersatz times ordered by ersatz B-relations, and nothingness. Viewed this way, this version of presentism is similar to the growing block view, except that instead of there existing a four-dimensional concrete block that grows as new (concrete) times accrete to it instead it is the set of ersatz times that grows as moments that were once concretely realised cease to be so, and a new time comes to be *the* concretely realised time that is ersatz B-related to the past ersatz B-related times. According to this view, temporal passage consists in the changing of which moment is concretely realised, and the accretion of ersatz B-related ersatz times.

Alternatively, a slightly different of version of ersatz presentism might hold that all of the ersatz times that ever will be ersatz B-related are, tenselessly, ersatz B-related. Temporal passage then consists in the changing of which ersatz time is concretely realised. Such a view looks a little like the moving spotlight view, except that rather than the spotlight ranging over a fixed concrete four-dimensional manifold of events, it ranges of a fixed set of ersatz B-related ersatz times, and where the light shines, is the one and only concretely realised moment.

In either case, if this is what temporal passage consists in, then it certainly makes a difference to the way the world is. It makes a difference to *which* time is concretely realised, and, in one case, to which ersatz times are ersatz B-related to the ersatz time that is concretely realised. But does temporal passage thus understood make any difference to how things are, qualitatively speaking, at any particular time? It would seem not. Each ersatz time represents the way that time is, when it is concretely realised: that is the point of ersatz times. To put it another way, the propositions that are true of *t,* when *t* is concretely realised, are the same propositions that are true of *t,* when *t* is not concretely realised. Thus temporal passage makes a qualitative difference in the sense that it makes a difference to which qualities are concretely realised; but it fails to make a qualitative difference in the sense that it makes no difference to how any moment is, qualitatively speaking.

On the face of it, one might think that what matters is that temporal passage make the second sort of difference; that it makes a difference to how any moment is, qualitatively speaking. After all, the idea is that our phenomenology has a certain character, and the best explanation for this character is the existence of temporal passage. Yet surely that can only be true if the presence of passage makes a difference to our temporal phenomenology; that is, in the absence of said passage, the qualities instantiated at a time (i.e. our phenomenology) would be different. But since any time, *t*, has the same qualities whether it is present or not, it seems as though passage does not make any difference to how *t* is, qualitatively. Thus, one might conclude, temporal passage makes, at best, a non-qualitative and hence non-physical difference.

To conclude that temporal passage makes, at best, a non-qualitative and hence non-physical difference, however, is too swift. The presentist does not need to show that a time, *t,* is qualitatively different *when it is present*, from *when it is past* (or future). She merely needs to show that a time, *t,* *would have been* qualitatively different in the absence of passage. So the ersatz presentist might respond to the line of thought above, by claiming that the qualities that a time, *t* has (*simpliciter*) in an ersatz presentist world, would have been different had that world lacked passage, and that is the relevant difference at play. How do we evaluate that claim? Presumably we go to the closest world that lacks passage, and we see if *t* is indeed qualitatively different. But now it seems that the ersatz presentist is in trouble. She has helped herself to the ersatz B-relation, which is supposed to do the work for her, that the B-relation does for the eternalist. She has, in effect, granted that there is an ersatz “block universe” in which there exists all of the ersatz times that are ersatz B-related.[[10]](#footnote-10) This ersatz block universe is, of course, a presentist world. When it comes to consideration of what concrete things exist, the answer is: only present things. But when we ask about ersatz times and ersatz things, we are told that all ersatz times and things exist, and are related by ersatz B-relations. Let us call this world a *presentist ersatz block universe* to remind us that this world has both characteristics of a presentist world and an ersatz block universe.

If one supposes that our world is a presentist ersatz block universe, then given that the ersatz B-relation is analogous to the B-relation, it is plausible to suppose that there exists a possible world, exactly like this presentist ersatz block universe, except that every ersatz time is concretely realised. That is, it is plausible to suppose there is a possible world in which the ersatz block universe component of the presentist ersatz block universe is not ersatz at all: it is concrete. After all, every time in the presentist ersatz block universe is concretely realised, just not simultaneously. So for every time in the presentist ersatz block universe, it is possible that that time is concrete.

Now suppose we ask ourselves: what is the closest world to the presentist ersatz block universe world, in which temporal passage is absent? If there is such a possible world, that world is a standard block universe. Or, if you prefer, on the assumption that the presentist ersatz block world is actual, we are asking: what is the closest world to the actual world, in which there is no temporal passage? Intuitively, of the worlds that lack temporal passage, the closest one to the actual world is one in which (a) every actually concretely realised time has a duplicate. There is no time that is not a duplicate of an actual time: there is a bijection from each concretely realised actual time, to a concrete time in the world that lacks temporal passage, and (b) the B-series order of events in the world that lacks temporal passage, is the same as the A-series order of events in the actual world. These constraints seem pretty plausible. They basically tell us that of all of the worlds that lack temporal passage, the one closest to the actual world will be one that contains qualitative duplicates of the events, objects, and properties, at each moment, and which orders those events, objects, and properties, in the same B-series order as they are actually ordered in the A-series (on the assumption that actually, ours is presentist ersatz block universe world).

If these constraints are right, then it is plausible that the standard block world we described earlier, is, of the worlds that lack temporal passage, the closest one to the actual world. After all, in the standard block world there is a duplicate of each concretely realised actual time (that is, there is a duplicate of each actual object, event, and property, at each time) and those events are ordered, in the standard block B-series, in the same order that their duplicate events are actually ordered in the A-series. So if the standard block world thus described is possible, then it is plausible indeed that, of the worlds that lack temporal passage, it is the closest to the actual world. But then, since each moment in the standard block universe is qualitatively identical to a moment in the actual world, it follows that temporal passage makes no qualitative difference (and thus no physical difference).

*Argument that Ersatz Passage makes no Qualitative Difference:*

1. Our world is a presentist world that consists of a single concrete moment and ersatz times that are ersatz B-related (call this the presentist ersatz block world).
2. Temporal passage in the actual worldconsists in the changing of which ersatz time is concretely realised.
3. If temporal passage makes a qualitative difference in the actual world, then the qualities that a time, *t* hasactually,would have been different had theactual world not contained temporal passage.
4. There is a standard block world (call this world, w1) in which every ersatz time in the actual world has a concrete realization, and such that the concrete times in w1 are in the same order, in their B-series, as the order of the ersatz times in the actual world, in their ersatz B-series.
5. The ersatz B-relation is analogous to the B-relation.
6. If temporal passage in the actual world makes a qualitative difference, then the qualities that a time, *t* has, actually, would be different were theactual to fail to contain temporal passage.
7. There is no temporal passage in w1.
8. If every time in w1 is a concrete realisation of an ersatz time in the actual world, then every time in w1 is a time for time qualitative duplicate that preserves the same temporal order of events as in the actual world
9. W1 it is the closest world to the actual world, which lacks temporal passage (from 7, 8).
10. Since time in w1 is a qualitative duplicate of an actual time, there is no qualitative difference between w1 and the actual world.
11. Therefore temporal passage makes no qualitative difference to the actual world.

We concede that the presentist might deny that w1 is possible. There are, however, clear risks to this strategy. The ersatz presentist requires that there be a strong analogy between the ersatz B-relation and the B-relation, or she cannot appeal to the ersatz B-relation to do the work she requires. While we cannot rule out that there is some way to preserve the analogy, and yet reject the existence of w1, we do not know what this way would be. Thus, we think, the ersatz presentist ought to conclude that the closest world to the actual world (on the assumption that actually, ours is a presentist ersatz block world) is w1, and, therefore she should conclude that temporal passage of the kind described by the ersatz presentist makes no qualitative difference, and hence no difference, *simpliciter*, to our phenomenology.

**3.3 Presentist Passage as ‘Pure’ Real Change**

Let us, then, press on. So far we have considered models of presentist passage that model passage in terms of real change, where that was understood as real change in terms of primitive past-tensed properties or change in which ersatz time is concretely realised. The presentist might instead, simply appeal to ‘pure’ real change, that is, change in what presently exists. There are two ways one might think about such real change. On the first, (RC1), what exists is a single three-dimensional region of space that lacks temporal extent, and temporal passage consists in the continuous coming into existence of new three-dimensional regions, and the cessation of existence of a previous three-dimensional region. Alternatively (and more commonly) on the second view, (RC2), temporal passage consists in the fact that a single three-dimensional slice exists, and it is the properties of that slice that change.

Views in the spirit of the latter can be found articulated in Tallant[[11]](#footnote-11) except that Tallant is an eliminativist about temporal passage. He holds that there is no temporal passage; there is just the real change of objects located on a single slice, and their rates of change, relative to one another. There is no rate at which that slice itself changes, and thus, Tallant thinks, there is no passage. In part, Tallant is motivated by the thought that to admit that there is passage requires saying at what rate time passes, and this is not possible. Since that issue is not one with which we are concerned, it is open to us to take Tallant’s view and wiggle it a little, so that in addition to the changes of the various events and objects on the three-dimensional slice, there is also the change of the slice, in toto. We will suppose this to be temporal passage. Then, in RC1, temporal passage consists in the real change of *which* three-dimensional slice exists, and in RC2, temporal passage consists in the real change *of* the three-dimensional slice.

Does passage, understood in either of these ways, make a physical difference? On the face of it, the answer appears to be ‘no’. Suppose temporal passage is nothing more than real change of the kind such as RC1 or RC2. Suppose further, that for that for any real change, C, in a world w, there is a mere variation, c, in some world w\* such that the C and c are qualitatively identical. Here by ‘mere variation’ we mean at-at change, where at-at change is ‘small c’ change, in that there is no change of the world itself, but rather, change in the world in virtue of things being one way at one time, and a different way at some other time. Suppose real change in w consists in a single three-dimensional slice, S, first instantiating property P, and then instantiating property P\*: call this change C. Now consider a block universe world in which there is a time, t, that instantiates P, and an adjacent time (let us suppose time is discrete for purposes of illustration) that instantiates P\*: call this change, c. It seems to us that C is qualitatively identical to c. That is, there are no qualitative properties instantiated as part of the C-change that are not instantiated as part of the c-change. Moreover, we suggest that for any possible C-change, it is such that there is some possible qualitatively identical c-change. Suppose that this is true, and further, that the actual world is a presentist world in which temporal passage is real change. Then here is something else that seems plausible – of the many worlds that lack temporal passage, the closest one to the actual presentist world is one in which for every incidence of actual real change, C, there is a qualitatively identical c-change (and *vice versa*). But that world, which is a block universe world, is a world in which each of whose times is qualitatively identical to a time in the actual presentist world, and each of whose times is in the same temporal order as the actual times. So if, of the worlds that lack temporal passage, *that* world is the closest one to the actual presentist world, then temporal passage makes no qualitative difference to the actual presentist world, and hence makes no physical difference.

But here, the presentist might demur. She might deny that for any real change, C, there *is* an at-at c-change that is qualitatively identical. If she is right about this, then we have no guarantee that of the worlds that lack temporal passage, the closest one to the actual world is one in which every time is qualitatively identical to some actual time. The presentist might insist that real change brings with it additional, or at least, different qualitative properties. Imagine looking at a presentist world undergoing real change – there exists a single three-dimensional slice that is changing, and one way to get a handle on such a view is to suppose that such a world is one in which there is a ‘stuck’ spotlight. The spotlight remains, forever, on the single present moment. That moment is different from how it would have been, had the spotlight not been on. The spotlight, in turn, is on because there is real change, thus temporal passage makes a qualitative difference to how things are. Can we understand such an account of passage and does such passage make a physical difference? Answering these questions will be our task in section 4.

First, however, let us recap. We have shown that two theories of passage to which the presentist might appeal, namely passage as the accumulation of primitive tensed properties, and passage as the progressive concrete realisation of ersatz times. Both theories result in an account of passage according to which passage makes no qualitative difference to how things are, and hence makes no physical difference to how things are. It is not our aim, in this paper, to argue for physicalism over dualism. Our aim is simply to show that presentist theories of passage are ones according to which passage of that sort can make a phenomenological difference only if dualism is true. Thus the presentist argument from temporal phenomenology is sound only if dualism is true. We will, by and large, leave it to the reader to decide whether to conclude that dualism is true, and the presentist argument from temporal phenomenology succeeds, or to conclude that dualism is false, and the presentist argument from temporal phenomenology fails. We do, however, wish to make just one point. There are most certainly those who think we have independent reason to accept dualism, and that that reason is, principally, the character of our phenomenal states (not just our temporal phenomenological states, but our phenomenal states in general). So it would be easy to imagine that since our states of temporal phenomenology are phenomenal states, there is independent reasons of the sorts to which dualists appeal, to suppose that said states are non-physical. In what follows, we briefly outline why we do not think this is so.

**3.4 Dualism and our Temporal Phenomenology**

There is good reason to think that our temporal phenomenology is quasi-perceptual. By this we mean that many of the features of our temporal phenomenology are shared by paradigmatic perceptual experiences. Our temporal experiences seem to involve the presentation as of mind-independent features of the world (distinct from features of our experience), and the character of our temporal phenomenology involves the presentation of certain features of the world in such a way that the character of certain features of the world is immediately responsible to the character of the objects presented in experience. That is, it seems as though our phenomenology is immediately responsive to the things in the world that it presents or represents. This is by contrast to, say, our experience of imagining a purple horse, which does not seem to be perceptual in any of these ways.

Indeed, there is surely a tacit premise in the argument from temporal phenomenology, a premise that says that our temporal phenomenology is quasi-perceptual. According to that argument, the only reasonable explanation for our temporal phenomenology is the presence of something *out in the world,* namely, passage. Notice that no one thinks that the best explanation for our phenomenology as of imagining a purple horse, is the existence of purple horses. The reason it seems plausible that the only reasonable explanation for the fact that our phenomenology is as of passage, is that our phenomenology of passage is quasi-perceptual: it presents to us with a character as of the *world* being a certain way. That is what it is for a state to be quasi-perceptual. If our temporal phenomenology were not quasi-perceptual, then the argument from temporal phenomenology would not strike us at all plausible.

But now suppose that our temporal phenomenology is indeed quasi-perceptual. It is usually thought that the content of *perceptual* states is at least in part a function of to what those states are causally connected; in particular, which states of the worlds typically cause those perceptual states.[[12]](#footnote-12) Given that our temporal phenomenology is quasi-perceptual, it is plausible that its content too, is at least in part determined by the causal connections between some representational mental states and states of the world. There are various ways one might spell this out. One might think that quasi-perceptual phenomenal states get their content partly in virtue of the causal connections that they bear to states of the world. Or, more commonly, one might suppose that the content of quasi-phenomenal states supervenes on the content of at least some of our representational states, and, in turn, the content of *those* representational states is determined, at least in part*,* by to what those mental states are typically causally connected.[[13]](#footnote-13) All that matters, from our point of view, is that causation plays some role in determining the content of quasi-perceptual states.

Suppose, however, that temporal passage makes only a non-qualitative difference to the way the world is. Then not only does the defender of the argument from temporal passage need to reject physicalism, but, in addition, she needs to reject the claim that quasi-perceptual states get their content in the way just described. This is because if temporal passage makes only a non-qualitative difference, it obviously does not make any causal difference. So *if* our quasi-perceptual states get their content in part due to the causal connections they bear to the world (either directly or indirectly) then we can only have a *veridical* phenomenology as of temporal passage if our phenomenology as of temporal passage is appropriately (directly or indirectly) causally connected to temporal passage.

Suppose quasi-perceptual content is determined, at least in part, as we have just suggested. It does not follow from this that if there is no temporal passage, our phenomenology is *not* a phenomenology as of passage. One could hold that there are quasi-perceptual states, such as a hallucination of a purple horse, that have the content they do because they are appropriately, directly or indirectly causally connected to purple-ness and horses. So perhaps it is possible that our temporal phenomenology has content as of passage, and yet there be no temporal passage. But the world being *that* way is no help at all to someone who wants to defend the argument from temporal phenomenology since she wants to say that our temporal phenomenology has content as of passage, because there is temporal passage. That is why the presence of temporal phenomenology is evidence of the presence of the temporal passage.

Consider, now, though, that all the accounts of presentist temporal passage that we have so far considered have been ones that make only a non-qualitative and hence non-causal difference to how things are. If this kind of passage makes a difference to our temporal phenomenology, it does so not only on the assumption that dualism is true, but also, on the assumption that the content of our quasi-perceptual states *is not, in any way*, a function of to what those states are directly or indirectly causally related. For if the content of our quasi-perceptual states were, in part, a function of their causal connections, then it would turn out either that our temporal phenomenology is (1) not a phenomenology as of passage at all, but has some other content, or, (2) that it does have a content as of passage, but is illusory. Either (1) or (2) must be true, since on such a view, temporal phenomenology fails to bear any causal connection at all to the presence of passage, because passage is causally inefficacious. Since in either case this would entirely undermine the argument from temporal phenomenology, it follows that if the presentist accepts either of these accounts of temporal passage she must reject not only physicalism, but also a fairly plausible constraint on the manner in which quasi-perceptual states get their content.

**4. Real change and at-at change**

Let us, then, return to the only view of passage we have considered which offers the prospect that temporal passage makes something other than a non-qualitative difference to the way the world is. This is the view that passage consists in real change, where real change is change *of* the world, rather than variation *across* the world. Recall we previously suggested that the presentist might reject our un-argued for assertion that for any real chance, C, there is a qualitatively identical at-at change, c. Instead, she might hold that real change makes a qualitative difference to how things are, in the sense that in its absence, things would be qualitatively different. The idea is that the present moment has a quality that it would not otherwise have had (the static spotlight) in the absence of real change. Let us call this the *passage* *property*. Then ‘the passage property’ just names whatever qualitative property the present moment has in virtue of there being real change, which it would have lacked in the closest world that lacks real change. What sort of property is this? Two possibilities present themselves; (1) this property is intrinsic, (2) it is extrinsic. Let us consider each of these in turn.

**4.1 Passage as an intrinsic property**

Let us begin by supposing that presentism is the view that (a) a single three-dimensional region of space exists, *simpliciter* and (b) which single three-dimensional region of space, exists, *simpliciter*, changes: that is, there exists a succession of numerically distinct three-dimensional regions, but the whole world only ever contains a single such slice, *simpliciter*. Then temporal passage consists in the coming into existence of a new three-dimensional slice of being, and the cessation of existence of the previous three-dimensional slice of being. Real change, on this picture, is change of *what* exists, rather than a change in the properties of a single three-dimensional slice of being. Further, let us assume that the passage property is intrinsic to the time that instantiates it. Then we can argue to the same conclusion we reached in section 3, namely that the presence of this passage property makes no qualitative difference. But we can do so without presupposing, from the get-go, that any real change, C, has a qualitative duplicate at-at change, c, something that the presentist might feel inclined to deny.

 Here is how the argument proceeds. First we need to make a claim about what fixes the representational content of our mental states. We will suppose that the content of any mental state is fixed by the total distribution of qualitative properties at times that do, did, or will exist, and by the total set of causal relations obtaining between events at times. This stipulation is consistent with physicalism: if physicalism is true, then every qualitative property is a physical property, and it follows that the total distribution of physical properties across all times, plus the causal relations obtaining between physical events at times, completely fixes the content of our mental states. Further, it is consistent with any physicalist theory of content, where these different theories pick out different bits of the physical nexus as being relevant to determining content. This stipulation is also consistent with dualism; it tells us that the content of our mental states is fixed by the complete distribution of qualitative properties at times, and the causal relations between said events at times. If some qualitative properties are not physical properties, then it may be that content is, in part, fixed by these properties. So the stipulation is a weak one: it just requires that once you fix *all* the qualitative properties, and causal relations between events, you thereby fix the facts about content.

Next, the argument that the presence of this passage property makes no qualitative difference will appeal to what is known as the patchwork principle of possibility. That principle says that if it is possible that x occur intrinsically in some spatio-temporal region R, and it is possible that y occur intrinsically in some spatio-temporal region R\*, then it is possible that x and y occur in adjacent spatio-temporal regions. We will not defend this principle, but it is a relatively well-accepted principle of modal recombination, and nothing about presentism *per se* is in tension with this principle.

According to the version of presentism we are considering, temporal passage consists in a new three-dimensional region of space coming into existence as time passes. Call this presentist world wp. Since at each moment, a numerically distinct three-dimensional region exists, it ought to be possible, given the patchwork principle, to ‘patch together’ intrinsic duplicates of each three-dimensional slice that comes into, and then out of, existence in wp. Doing so will result in us creating a world with four dimensions: a world in which each of the three-dimensional slices is arrayed along a fourth dimension. Moreover, we can suppose that this world (or at least, one such world as this) is such that the three-dimensional slices that are arrayed along this fourth dimension, have the same order, along that dimension, that the slices have in the A-series in wp. Call this world wd (d for duplicate). Many of us will think that wd is a block universe, and that the fourth dimension is time. Thus we will think that the ordering that is preserved between wp and wd is a *temporal ordering*. Let us rename wd, thus construed, wb (b for block).

Consider wb, where each time in wb is an intrinsic qualitative duplicate of a time in wp. Moreover, since events in wb bear the same temporal relations to one another as their duplicates in wp, it is plausible to suppose that the causal relations present in wp are also present in wb. It is also plausible that if two worlds are exactly alike in terms of their distribution of intrinsic qualitative properties, and their temporal and causal relations, then they are qualitative duplicates *simpliciter*. If so, we can conclude that each time in wb is a qualitative duplicate, *simpliciter*, of a time in wp. This would not be plausible if the passage property were not intrinsic; for then it would not be plausible that having duplicated all the intrinsic properties and relational properties, one would thereby have duplicated all of the qualitative properties. But since on this view the passage property is intrinsic, that need not concern us.

If the two worlds, wb and wp, are qualitative duplicates *simpliciter*, then given our earlier assumption about what fixes mental content (i.e. the totality of qualitative properties and causal relations between events), they are also mental content duplicates. Moreover, since phenomenal content supervenes on mental content, such worlds are also phenomenal duplicates. So the temporal phenomenology is the same in wb as it is in wp. Yet wb lacks temporal passage. Moreover, it is surely the case that of the worlds that lack temporal passage, wb is the closest such world to wp, since wb is a time for time duplicate of wp. Given standard semantics for evaluating counterfactuals, we can conclude that had wp lacked temporal passage, phenomenology would have been the same as it in fact is. Thus, the presence of temporal passage in wp makes no qualitative difference. Here is the argument:

*Presentist Patching Argument*

1. The content of any mental state is fixed by the total distribution of qualitative properties at times and by the total set of causal relations obtaining between events at times.
2. The patchwork principle of possibility is true.
3. There exists a block universe world, wb, in which every time is an intrinsic qualitative duplicate of a time in a presentist world, wp, such that the times in wb are ordered, via the B-series, in the same order as those in wp are ordered via the A-series.
4. If a world, w, is an intrinsic qualitative duplicate of a world, w\*, and if the same temporal and causal relations obtain between properties and events in w as in w\*, then w is a qualitative duplicate simpliciter, of w\*.
5. The same temporal and causal relations obtain between properties and events in wb as between intrinsic duplicate properties and events in wp.
6. Therefore, Every time in wb is a qualitative duplicate, *simpliciter*, of a time in wp.
7. Therefore, wb is a mental-state duplicate of wp: the mental states in wb have the same content as the intrinsic duplicate mental states in wp.
8. Therefore, wb and wp are phenomenological duplicates: the phenomenological states in wb have the same character as the intrinsic duplicate phenomenal states in wp.
9. Wb is the closest world to wp, in which there is no temporal passage.
10. If there were no temporal passage in wp, the phenomenology in wp would have been the same as in wb.
11. Therefore, temporal passage in wp makes no difference to the temporal phenomenology in wp.

If wp is the actual world, the presence of passage in the actual world makes no difference to our temporal phenomenology.

There are two places where the presentist might resist the presentist patching argument. Both lie in the supposition that wb is possible. First, one might be a necessitarian: someone who thinks that if presentism is true, it is true of necessity. Then one will reject (3). Or, second, one might reject (3) for a different reason: namely, one might think that the truth of (2) does not license (3) Let us consider each of these in turn.

The necessitarian will reject (3) because (as we understand the view) she thinks that necessarily, any world containing time is one in which presentism is true. A necessitarian presentist will hold that wb is impossible because block universe worlds are impossible. Block universe worlds are impossible because they are worlds that (a) are non-presentist worlds, and (b) contain time (by containing a B-series). Suppose, for a moment, that the necessitarian is right. Then the presentist patching argument is unsound since (3) is false. Recall, though, that we began with world wd — a four-dimensional world in which duplicates of all of the three-dimensional slices from wp are arrayed along a fourth dimension in an ordering that mirrors the A-series ordering of those moments in wp. It was a further claim that wd, thus described, is a block universe in which the ordering of the slices along that fourth dimension is a temporal one. Suppose we agree with the necessitarian that wb is impossible. Still, it is surely the case that wd is possible. For surely, there are possible worlds containing different numbers of dimensions.

If wd is possible, we can re-cast the argument by, first, replacing every instance of wb, with an instance of wd. Still, a good deal of work needs to be done to rehabilitate the argument. We will start by replacing (3) with (3\*).

(3\*) There exists a world, wd, such that along the fourth dimension in that world, there are intrinsic duplicates of each of the three-dimensional slices that ever exist in wp, and such that the ordering of these slices, in wd, along the fourth dimension, is the same as the temporal ordering (via the A-series) of the duplicate slices in wp.

At this point, however, there is a further problem. For premise (5) — and hence also (6), (7) and (8)—is false. According to (5), the same temporal and causal relations obtain between events in wd, as obtain between duplicate of events in wp. But the same temporal relations clearly do not obtain between events in wd as between duplicate events in wp, since *no* temporal relations obtain in wd. Moreover, if time is necessary for causation and there is no time in wd, then there is no causation either; so neither temporal nor causal relations obtain in wd. Catastrophe.

In essence, the presentist patching argument needs to be amended to make it plausible that three things are true. (1) The fourth dimension in wd is relevantly *time-like*, so that the time-like relations between events in wd, are relevantly similar to the temporal relations between duplicate events in wp. (2) The time-like dimension in wd is sufficiently similar to the temporal dimension in wp, such that where causal relations obtain between pairs of events in wp, some analogous relation, causation\*, obtains between duplicate pairs of events in wd. (3) Causation\* is sufficiently like causation, and time-like relations are sufficiently like temporal relations so that (i) mental content in wd is fixed by the total distribution of qualities across space and time-like relations and by the causal\* relations between events, and (ii) there is a bijection between the mental states in wd and those in wp, such that mental states of the same content are mapped to one another (that is, wd is a mental state duplicate of wp).

There is not the space, here, to defend fully all of these claims. But we can say the following. The fourth-dimension in wd has many of the features that the non-dynamist supposes to be characteristic of actual time. It shares, for instance, the same topological relations and ‘distance’ relations between events. If wd were actual, it is clear that we would conclude that the fourth dimension is temporal (that wd is wb). So there is reason to think that even if the fourth dimension is not, as the necessitarian maintains, temporal, it is time-like. Something similar can be said about causation\*. First, notice that causation\* is just what the non-dynamist thinks actual causation is like. Were we to discover that wd is actual, it is certain that we would conclude that causation\* is causation. Moreover, causation\* does play many of the same roles as causation. Causal\* relations will support robust counterfactual conditionals of the sort thought to be at least in part, evidence of causation.[[14]](#footnote-14) It is also plausible that mental content in wd is fixed by the total distribution of qualitative properties at locations (spatial and time-like) and by the causal\* relations obtaining between events. How else could content be fixed in wd? What remains unclear is whether the similarities between causation\* and causation, and between temporal relations and time-like ones, are enough to make it true that the mental states in wd are content-duplicates of the mental states in wp. It seems to us that they are, but perhaps that is because, tacitly, we think that there *is* time in wd because we are not, in fact, necessitarian presentists. So we remain unsure how much the presentist patching argument will move a necessitarian presentist of this ilk. Still, one can only do one’s best. Below are the additional premises needed to amend the Presentist Patching Argument.

1. The fourth dimension in wd is a *time-like* dimension.
2. For any events, e and e\* in wp, if e causes e\* then in wd there exist duplicate events, e’ and e’\*, such that e’ causes\* e’\*.
3. Causation\* is relevantly like causation.
4. Mental content in wd is fixed by the total distribution of qualities across space and the time-like dimension, and by the causal\* relations between events.
5. There is an isomorphism between the time-like relations in wd and the temporal relations in wp, and an isomorphism between the causal\* relations in wd and the causal relations in wp.
6. If there is an isomorphism between the time-like relations in wd and the temporal relations in wp, and an isomorphism between the causal\* relations in wd, and if the causal relations in wp and time-like relations are relevantly similar to temporal relations, and causal\* relations are relevantly similar to causal relations, then each time-like slice in wd is a qualitative duplicate, *simpliciter*, of a time in wp (and *vice versa*).

That concludes our defence of the presentist patching argument in the face of the objection from necessitarianism.

 As we noted earlier, however, there is a second reason the presentist might reject (3). Namely, she might point out that if one endorses a version of presentism according to which temporal passage does not consist in the coming into existence of numerically distinct three-dimensional regions of space, but instead in the changing of a single three-dimensional of region of space, then appeal to the patching principle does not guarantee the truth of (3). The patching principle says that if it is possible that x occurs intrinsically in some spatio-temporal region R, and it is possible that y occurs intrinsically in some spatio-temporal region R\*, then it is possible that x and y occur in adjacent spatio-temporal regions. But that does not suggest that if it is possible that x occurs intrinsically at three-dimensional region, R, and it possible that y occurs intrinsically at three-dimensional region R\* then it is possible that x and y occur in adjacent three-dimensional regions. In effect, the patching principle does not license us to ‘patch together’ the very same piece of three-dimensional space *with itself*. So we have no reason to believe that if passage is as described, wd or wb is possible.

 We think there is a response to this objection. Let us start by considering what we call a *Newtonian “block” world.* This is a world in which there are four-dimensions—hence our use of ‘block’. But it is a world in which space and time are absolute. More particularly, spatial points endure through time, so that *the very same space* exists at different times.[[15]](#footnote-15) We call this a Newtonian block world because this is the way Newton held the actual world to be and, it seems to us (although Newton was wrong), that there is nothing obviously incoherent about such a world. It seems plausible to us that there are possible Newtonian block worlds: it is just that ours is not one of them (at least, assuming Einstein is right). Newtonian block worlds occur when spatial regions are multiply located at different times. So one way to get a Newtonian block world is to ‘patch together’ a piece of space as it is at one time in wp, with the very same piece of space as it is at some other time in wp, and so on for every time in wp. The point, here, is that if there are possible Newtonian block worlds, then it *is* possible to patch together what exists at each moment in wp, into a universe such as wd or wb. So if we are inclined to suppose that Newtonian worlds of this kind are possible, then we should allow that wd is possible.

 Of course, the necessitarian presentist will still deny that wb is possible. One way to see why this is, is that she might well contend that since time consists in the changing of a single three-dimensional slice, there is ‘nowhen’ in the Newtonian block world into which to ‘paste’ the slices duplicated from wp. If the necessitarian is right about every world with time being a world in which presentism is true, then she is right about this, and Wb is indeed impossible. But, as we argued in response to the necessitarian response above, wd is possible. We think that if our earlier response to the necessitarian succeeds, then the same response succeeds here. That is, as long as she allows that wd is possible, wd can do all the work we need.

 If our amended presentist patching argument succeeds, then it shows that if presentist passage is thought of as real change—either in which three-dimensional slices of space exist, or real change in the properties of a single three-dimensional slice of space—and if that real change results in an intrinsic passage property, then it follows that passage thus understood makes no difference to our phenomenology. Moreover, no appeal to physicalism is required to show this to be so. So even a retreat to dualism will be of no help to the presentist defending this view of passage.

 Still, consideration of this kind of passage suggests a way forward for the presentist. For one might think that supposing the passage property to be intrinsic was a mistake from the beginning. What is important about real change is not just the intrinsic properties of a particular time, but, in addition, the properties (or lack thereof) at other times. Thus, in what follows, we consider accounts of presentist passage according to which the passage property is *extrinsic*.

**4.2. Passage as an Extrinsic Property**

The view that the passage property is extrinsic is motivated by the thought that part of what makes a particular moment the present one has something to do with what is going on, or not going on, at other moments. So one might think that a crucial feature of presentism is not simply that the present moment exists, but, in addition, that other moments do not. Again, the presentist might think that passage involves either the coming into and going out of existence of numerically distinct three-dimensional regions of space, or the changing of a single three-dimensional region. But, in addition, she will think that it is constitutive of temporal passage that whichever moment is present (or, if you prefer, whichever events and objects are present), no non-present objects or events exist. Since the non-existence of other events, objects, or times, is extrinsic to the present time, temporal passage will turn out to involve extrinsic properties. One might worry that such a view commits the presentist to suppose that there exist relations between things that exist, and things that don’t. If this is a problem for the presentist, then it a more general problem, and, besides, if it turns out that such a view of passage is incoherent, then so much the better for us. Here, though, we will assume we can make sense of this idea in one of the ways we outline below.

There are various ways the presentist might go about spelling out such a view of passage. For instance, she might endorse a sort of presentist-friendly version of a view more normally defended by, *inter alia*, some growing block theorists. According to such views, when a moment comes into existence it instantiates some set of qualitative properties, and the qualitative properties of that moment change when it goes from being present, to being objectively past. One example of this is known as the dead past hypothesis. Forrest (2004; 2006) for instance, holds that what sets the objective present apart from the objective past is the presence of incomplete causal processes in the objective present. That something is an incomplete causal process is an extrinsic matter: it depends on the existence of causes that lack effects. Further, there are qualitative properties that supervene *only* on incomplete causal processes; according to Forrest, phenomenal states are like this. The fact that a time is objectively present makes a qualitative difference to that time, since, for instance, when *t* is present there exist, at *t*, persons who have phenomenal states, and when *t* ceases to be present there exist, at *t,* no persons who have phenomenal states. Thus the passage of time makes a difference to phenomenology because when *t* is present there is phenomenology present at *t*, and when it is not, there is no phenomenology present. .

 The presentist might say something similar. According to such a view, the present moment has the qualities it does in virtue of the fact that no other times, non-present objects, or events, exist. To see the difference between this view of passage and the view we just considered, let us revisit the patching argument. Suppose we ‘patch together’ a four-dimensional world by duplicating all of the intrinsic properties of each moment in a presentist world. If temporal passage involves extrinsic properties, then given that we only duplicate *intrinsic* properties, we cannot be assured that we have also duplicated the relevant extrinsic properties. Indeed, if the extrinsic properties in question involve the non-existence of certain events, objects, and times, then we most certainly do not duplicate those extrinsic properties in the four-dimensional world. So we have no grounds to suppose that our patched together world is a qualitative duplicate of the presentist world, and the patching argument is unsound.

 If the presentist adopts a view similar to that of Forrest’s, the difference temporal passage makes to a world is the difference in whether there is any phenomenology at all, rather than a difference in the character of that phenomenology. We do not think that this, however, would offer much hope in defending the argument from temporal phenomenology (or its presentist variant). After all, according to that argument, it is the character of our phenomenology, namely, that it has content as of passage, that warrants us in positing the existence of passage. But if temporal passage just makes a difference to whether or not there is phenomenology at all, then the fact that we have a phenomenology as of passage is not a reason to posit passage. Of course, if we had independent reason to suppose that in the absence of passage, there would be no phenomenology, then the fact that we *do* have phenomenology would be excellent reason to posit the existence of passage. But that is not the status of things at all. We have no such independent reason. Instead, the dialectic is as follows: if anything, given the state of modern physics, we have reason to suppose there is no temporal passage. The dynamist argues that we should think there is passage, because it is the only reasonable explanation for the content of our phenomenology (namely the phenomenology as of passage). It cannot help her case to develop a theory of passage according to which, if the world were that way, then in the absence of passage we would have no phenomenology at all, for the presence of our particular phenomenology provides no evidence for such a supposition about the world.

 Now, the presentist could embrace a view according to which extrinsic properties make a difference to which qualitative properties are instantiated in the present, and thus make a difference to the content of our phenomenology. The thought, then, would be that if that is the way our world is, then the closest world to ours which lacks temporal passage will be one in which the phenomenology is different.

 Consider then, the sources of disagreement between those who think there is presentist passage of this kind, and those who think there is no passage. Both may agree about which qualitative properties are instantiated by the present moment. But the presentist maintains that these properties would have been different, had past and future moments existed. The non-dynamist maintains that past and future moments do exist, and therefore that in the closest world where they exist, the qualitative properties of the present would be the same (since the closest such world is the actual world). So the non-dynamist holds that either (a) our phenomenology is as of passage, and that phenomenology is systematically illusory or (b) our phenomenology is not as of passage, but is veridical phenomenology with some other content. The presentist holds that (c) our phenomenology has a veridical content as of passage. Presentists who are physicalists will likely accept that since temporal phenomenology is quasi-perceptual, its content is at least partly determined by the causal connections between the world, and some relevant mental states. Thus she will think that (c) is true if our phenomenology has, amongst its supervenience base, mental states that are causally connected to temporal passage.

But if the content of any quasi-perceptual phenomenal state is, at least in part, the product of causal connections between certain mental states and states of the world, then we cannot determine, by introspection alone, the content of our temporal phenomenology. If content is a function of (*inter alia*) the causal relations between our mental states and the world, then in the absence of knowing *something* about to what our mental states are typically causally connected, we cannot determine the content of our phenomenal states. That means we cannot tell, by introspection alone, whether (a), (b), or (c) is the case. Of course, if we had independent reason to suppose that we live in a presentist universe in which passage is as just described, then we would have independent reason to suppose that (c) is true. Notice, however, that the relevant supervenience base for an extrinsic property of temporal passage is empirically undetectable. We might be able to detect the presence of the relevant qualitative property that is instantiated in the present moment, but we certainly cannot detect that its supervenience base includes the absence of certain other events, objects, or times, since we cannot detect that there is an absence of said objects, events or times. So we cannot have *empirical* reason to suppose that our mental states *are* appropriately connected to temporal passage thus understood.

This puts the presentist who appeals to this kind of presentist passage in a difficult position. If we had good reason to suppose that ours is a presentist world in which passage involves the instantiation of certain extrinsic properties, then we would have good reason to suppose (c) to be true. But then any argument for passage on the basis of our phenomenology would be both circular and redundant. On the other hand, if we want to argue for passage (of this sort) on the basis of the character of our phenomenology, we need some reason to think that (c) is a better hypothesis than (b). But in the absence of some independent evidence for the existence of the relevant extrinsic properties, we have no reason to think our phenomenology *is* as of passage. Of course, if we had independent reason to suppose, for example, that consciousness supervenes on incomplete causal processes, then we would have good reason to think that there are such extrinsic properties, and they make a qualitative difference to the present moment. But we have no such reason. So examination of the character of our phenomenology does nothing to provide evidence for ours being a world in which there is temporal passage characterised extrinsically.

In sum then, we concede that were our world the way the presentist who thinks that the passage property is an extrinsic property takes it to be, then temporal passage would make a difference to our phenomenology. But that does not mean that the presence of the phenomenology that we have, gives us any reason to suppose that our world is that way. For discovering the relevant properties that make the difference to our phenomenology would be, in principle, impossible, according to such a view. So the only reason we might have to posit such properties, is on the basis of the character of our phenomenology. But that assumes that we can directly introspect the content of our phenomenology without knowing anything about to what it is causally connected in the world. We do not find this plausible. We note, however, that the dualist will likely be unconvinced by this line of thought. Since she thinks that non-physical properties can play a role in determining content by being part of the supervenience base of experiences, she might well think that we *can* directly introspect some aspects of content. She might think that we can tell, by introspection, that our temporal phenomenology is a phenomenology as of passage, and therefore that we have reason think that our world is a presentist world with passage of the sort just described. Maybe so. We certainly concede that anyone who wants to defend the presentist argument from temporal phenomenology ought to be a dualist, for this is the most plausible way of jettisoning any commitment to quasi-perceptual content being, in part, a function of causal connections.

**5. Conclusion**

In this paper we hope to have showed that although presentists can appeal to the argument from temporal phenomenology as a way to argue for presentism, they can do so only if they are prepared to jettison physicalism. We think this is a substantial cost, and therefore conclude that presentists should reject any such argument. But not everyone finds physicalism plausible. So we simply offer a conditional conclusion: insofar as one takes physicalism to be plausible, and one wishes to defend presentism, one ought not do so by mounting the presentist argument from temporal phenomenology.

**References**

Baron, Samuel ; Cusbert, John ; Farr, Matt ; Kon, Maria & Miller, Kristie (2015). Temporal Experience, Temporal Passage and the Cognitive Sciences. *Philosophy Compass* 10 (8):560-571.

Bigelow, John (1996). “Presentism and properties”. *Philosophical Perspectives* 10 (Metaphysics): 35-52.

Bourne, C. (2002). “When am I? A tense time for some tense theorists?” *Australasian*

*Journal of Philosophy* 80: 359–71.

Bourne, Craig (2006). *A Future for Presentism*. Oxford, Oxford.

Braddon-Mitchell, D. (2004). How do we know it is now now? Analysis 64: 199–203.

Broad, C. D. (1923). *Scientific Thought*. Routledge and Kegan Paul.

Cameron, R. (2015). *The Moving Spotlight: an essay on time and ontology*. OUP.

Craig, William Lane (2000). *The Tensed Theory of Time: A Critical Examination*. Kluwer Academic Publishers, Dordrecht.

Crisp, Thomas M. (2007). “Presentism and the grounding objection.” *Noûs* (41): 90–109.

Forrest, P. (2004). “The read but deal past: A reply to Braddon-Mitchell” *Analysis* 65 (4): 358-362.

Forrest, P. (2006). “Uniform Grounding of Truth and the Growing Block Theory: A Reply to Heathwood.” *Analysis* 66 (290): 161-162.

McTaggart, J. Ellis (1908). “The unreality of time”. *Mind* 17 (68):457–474.

Markosian, Ned (2004). “A Defence of Presentism”. *Oxford Studies in Metaphysics* *1* (3):47-82.

McCall, Storrs (1994). *A Model of the Universe*. Clarendon Press.

Skow, Bradford (2011). “Experience and the passage of time.” *Philosophical Perspectives* (25): 359–387.

Tallant, Jonathan (2010). A Sketch of a Presentist Theory of Passage. *Erkenntnis* 73 (1):133-140.

Tallant, Jonathan (2012). “(Existence) Presentism and the A-theory.” *Analysis* 72 (4): 673-681.

Tooley, Michael (1997). *Time, Tense, and Causation*. Clarendon Press.

Zimmerman, Dean (2011). Presentism and the space-time manifold. In Craig Callender (ed.), *The Oxford Handbook of Philosophy of Time*. Oxford University Press 163--246.

1. Proponents of an argument of roughly this form include Bourne (2006, pp. 15–16), Craig (2000, p. 138), and Williams (1951, pp. 465–466). This formulation of the argument is to be found in Baron, Cusbert, Farr, Kon, and Miller (2015). [↑](#footnote-ref-1)
2. There are other, weaker, arguments of this kind that aim to conclude, on the basis of our temporal phenomenology, that there is *prima facie* reason to prefer a theory according to which there is genuine passage. Still other arguments aim to show that, on the basis of our temporal phenomenology, that there is an explanatory burden that the non-dynamist incurs, that the dynamist does not. This paper focuses on the Argument for Temporal Passage, but much of what we say will hold, *mutatis mutandis*, for these weaker sorts of arguments. [↑](#footnote-ref-2)
3. Defenders of the growing block view include Broad (1923), Tooley (1997) and Forrest (2004, 2006). [↑](#footnote-ref-3)
4. Cameron (2015) defends a version of this view. [↑](#footnote-ref-4)
5. See Storrs McCall (1994). [↑](#footnote-ref-5)
6. For discussion of these views, and their attendant notions of passage see Skow (2011), Benovsky (2012) and Miller (forthcoming). [↑](#footnote-ref-6)
7. See Bigelow (1996), Markosian (2004), Bourne (2006), Tallant (2012), and others. [↑](#footnote-ref-7)
8. McTaggart (1908) and Zimmerman (2011). [↑](#footnote-ref-8)
9. See Bourne (2002) Braddon-Mitchell (2004). [↑](#footnote-ref-9)
10. On one version of presentism just outlined this block is a growing block, and on the other it is a regular block universe. [↑](#footnote-ref-10)
11. Tallant, J (2010). [↑](#footnote-ref-11)
12. Of course different accounts feature additional features; but most agree that causation is necessary. [↑](#footnote-ref-12)
13. If you suppose that causal connections obtain directly between phenomenal states and the world, then that will also do just fine for my purposes. [↑](#footnote-ref-13)
14. As long as can amend the counterfactual semantics to hold fixed slices along the time-like axis rather than the temporal axis. [↑](#footnote-ref-14)
15. This is why it is possible to measure absolute motion: absolute motion is motion relative to absolute space. Something is at absolute rest through duration T, if it is at the same place – the same bit of absolute space, throughout T. Something is in absolute motion if its absolute location at one time, is different to its absolute location at some other time. [↑](#footnote-ref-15)