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Abstract

It was once held to be a virtue of the growing block theory that it combines temporal dynamism with a straightforward account of in virtue of what past-tensed propositions are true, and an explanation for why some future-tensed propositions are not true (assuming they are not). This put the growing block theory ahead of its principal dynamist rival: presentism. Recently, *new* growing block theorists have suggested that what makes true, past-tensed propositions, is not the same kind of thing as what makes true, present-tensed propositions. They have done so in an attempt to defuse a particular epistemic objection to their view. In this paper it is argued that the new growing block theorist faces a dilemma. The more unified a strategy is for responding to the epistemic objection, the more that strategy results in the new growing block model positing truthmakers that are similar to those posited by the presentist, which erodes the purported advantage of the growing block theory over presentism. On the other hand, versions of the new growing block theory that embrace disunified strategies are better able to differentiate themselves from presentism, but are unattractive because of their disunity.

**Keywords:**

Time

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Truthmaking

**The New Growing Block Theory vs Presentism**

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It was once held to be a virtue of the growing block theory that it combines temporal dynamism with a straightforward account of in virtue of what past-tensed propositions are true, and an explanation for why some future-tensed propositions are not true (assuming they are not). This put the growing block theory ahead of its principal dynamist rival: presentism. Recently, *new* growing block theorists have suggested that what makes true, past-tensed propositions, is not the same kind of thing as what makes true, present-tensed propositions. They have done so in an attempt to defuse a particular epistemic objection to their view. In this paper it is argued that the new growing block theorist faces a dilemma. The more unified a strategy is for responding to the epistemic objection, the more that strategy results in the new growing block model positing truthmakers that are similar to those posited by the presentist, which erodes the purported advantage of the growing block theory over presentism. On the other hand, versions of the new growing block theory that embrace disunified strategies are better able to differentiate themselves from presentism, but are unattractive because of their disunity.

**1. Introduction**

It is hard to deny that the growing block theory, at first pass, has some features to recommend it. The theory entails that the future is not real: there are no future objects, properties or events out there in space-time, as real as present objects, properties and events. It also entails that there is an objectively present time: the very last time in the block, a time that looks out into yawning nothingness. The theory then models temporal passage in terms of the addition, or accretion, or new slices of being to the block. Thus a time that is present, will, shortly, be past as new slices of being are added to the block. Yet many find the growing block theory implausible. One reason to reject the view is what I call the epistemic objection. It is to this objection that the paper turns itself.

 The epistemic objection has been proffered, in one form or another, by Bourne (2002), Merricks (2006), and Braddon-Mitchell (2004; 2013). The objection, in a nutshell, is that I cannot know that it is *now* now if our world is a growing block. For on the growing block view ‘now’ is ambiguous between referring to the objectively present moment, on the one hand, and to the indexical now, on the other hand. The problem is that the indexical now and the objective now come apart. For traditional block universe theorists (those who accept eternalism combined with a B-theory of time) there is no use of ‘now’ to pick out an objectively present moment, for there is no such moment. So there aren’t two uses that can come apart. For presentists there is an ambiguity in the meaning of ‘now’, but there is no threat of the two uses coming apart. There is only one moment, the objectively present moment, and so both uses co-refer. The problem for the growing block theory is that while I can know that it is now, in the indexical sense, I cannot, it is argued, know that it is now now, where the first ‘now’ picks out the indexical and the second ‘now’ picks out the objectively present, sense of the term. Since whatever slice of being I am located on is in the objective present only fleetingly, and is, thereafter, in the objective past, on the assumption that I cannot distinguish being in the present from being in the past, it is much more likely that I am located in the objective past than the objective present. Hence I cannot know that I am located in the objective present (even if in fact I am). But this is objectionable. So we have reason to reject the growing block theory.

 These are two kinds of response to the epistemic objection. The first attempts to show that one *can* know that it is now now regardless of the fact that whether some location is objectively present or not, the experiences at that location are subjectively indistinguishable. The second attempts to argue that the experiences at some location when that location is objectively present are subjectively *distinguishable* from the experiences at that location when it is objectively past. A version of the growing block theory that attempts to do the former is what I call an *old* growing block theory; a version that attempts to do the latter is what I call a *new* growing block theory.

I argue that the first strategy fails, and therefore that the growing block theorist must pursue the second strategy. She must say that a location is subjectively distinguishable when it is objectively present, from when it is not. I call this the *distinguishability imperative.* In pursing this second strategy, however, the growing block theorist faces a dilemma. The more her truthmakers for past-tensed propositions are like her truthmakers for present-tensed propositions, the more she is able to argue that her view is superior to presentism in respecting our intuitions about truthmakers. Yet the more her truthmakers for past-tensed propositions are like her truthmakers for present-tensed propositions, the less able she is to meet the distinguishability imperative. The better she meets the distinguishability imperative, the more it turns out that her view is no better than her closest rival: presentism. For the better she meets the distinguishability imperative, the more she is committed to holding that the past is not like the present at all, and the less she is able to appeal to the way things are, in the past, to make true past-tensed propositions. Thus the paper defends a conditional claim: if one is tempted by the growing block theory one ought, instead, to get on board the presentist bus. It is a conditional thesis because in fact I think one ought not hitch one’s wagon to either the presentist or the growing block model’s star. One ought to stick with the plain old block universe model. But I will not argue for that claim here.

2. The Objection

Let us begin by introducing a way of representing the growing block theory. First, let’s call something a *slice*, iff it is a three-dimensional hyper-plane such that for any pair of objects, properties and events on that hyper-plane, those objects, properties and events are space-like separated but not time-like separated. It is slices, then, that come into existence as time passes (time passing is their sequential coming into existence). We can then map slices to times, so that when S1 comes into existence, it is t1, and when S2 come into existence, it is t2 and so on. We can then notice that S1, tenselessly, exists at all times after t1. At t2, S1 is objectively past (one instant past) and at t3, S1 is objectively past (2 instants past) and so on. We can represent this in terms of a world, time, slice, triple <w, t, S>.

Suppose we consider some individual, Bill, who is located at S1 in w. We can ask what things are like for Bill at <w, t1, S1> and at <w, t2, S1> and at <w, t3, S1> and so on. We are asking how things are, subjectively speaking, for Bill, located in w at S1, when it is t1, and when it is t2, and when it is t3. Let’s call the way things are, subjectively speaking, for an individual at such a triple, a *predicament.* Let’s suppose that w is the actual world, and that it is a growing block world. For simplicity, let’s call the set of predicaments centred on some individual, J, at w, at some particular slice, S, at all of the times at which that S tenselessly exists, J’s S-predicaments. Thus if J is located on slice S1 and S2, then there are J’s S1-predicaments and J’s S2-predicaments. Now suppose that for any S, J’s S-predicaments are subjectively indistinguishable. That is, it doesn’t matter whether we examine J’s subjective experiences when S is objectively present or when S is objectively past, J’s experiences at S are subjectively indistinguishable. Then we can formulate the epistemic objection as follows (see also Miller (forthcoming) for a similar, but more general, formulation):

*The epistemic objection*

1. If w is a growing block world, then for any arbitrary slice, S, in w, and individual, J, located at S, there are very many more times at which S is not objectively present, than times at which S is objectively present.
2. J’s S-predicaments are subjectively indistinguishable.
3. If J’s S-predicaments are subjectively indistinguishable then J ought to assign equal credence to being in at each of the S-predicaments.
4. So J ought to assign equal credence to being in each of the S-predicaments.
5. Since there are many more S-predicaments at which S is objectively past, than at which S is objectively present, J ought to assign very low credence to being in a predicament at which S is objectively present, and very high credence to being in some predicament or other at which S is objectively past.
6. If J ought to assign very high credence to being in some predicament or other at which S is objectively past, then J is justified in believing that she is located in the objective past, and not justified in believing that she is located in the objective present.
7. If J is not justified in believing that she is located in the objective present, then J does not know that she is located in the objective present.
8. Therefore, if w is a growing block world J does now know that she is located in the objective present.

My contention is that in order to resist this argument the growing block theorist ought reject II: she ought embrace the new growing block theory, and it is the remainder of the paper which considers such options. Recently, however, Cameron (2015) has argued that the epistemic objection can be resisted without rejecting II, but instead, by rejecting III.

Cameron presents a dilemma. Suppose, he says, we are internalists about justification. Then we think that justification is a matter of being related to some internal state. *Whatever* the internalist takes this internal state to be, Cameron thinks, it is plausible that III will come out as true. For instance, suppose the internalist holds that we are justified in believing that P if we can rule out not P. Then in a growing block world we are not justified in believing that we are present. If, however, that is the standard for justification then presentism is not preferable to the growing block theory. For even if presentism is true, the presentist cannot rule out that she is in a world with non-present times and hence cannot rule out that she is located at a non-present time. Thus even in a presentist world, the presentist cannot know that she is present. So, the thought is, either this gives us reason to reject internalism about justification, or it gives us reason to think that the epistemic objection is no special problem for the growing block theorist. If one rejects internalism in favour of externalism, though, says Cameron, we should reject III. So either the epistemic objection is unsound, or it is no special problem for the growing block theory.

Here is why Cameron thinks that if one rejects internalism in favour of any plausible version of externalism, one will reject III. Suppose justification is a matter of my belief being caused in a reliable manner. Suppose I believe I am in the objective present and I am. My belief that I am in the objective present is caused by me being in the objective present, and that belief is reliably so-caused. Since my belief is justified, and true, it is reasonable to suppose that I know that I am in the objective present. Of course, those located in the objective past also have the belief that they are in the objective present. Perhaps they even share my justification: their belief, too, was caused as the result of them being in the objective present when they were. But their belief is false, and so they do not know they are in the objective present. If, however, each of us can know that we are in the objective present when we are, then we ought not assign equal credence to being at each subjectively indistinguishable predicament. Each of us ought assign high credence to being in a predicament at which we are objectively present. So III is false.

Let’s start by considering internalism, and then move on to consider externalism. Recall that Cameron argues that if we accept internalism about justification, then conditional on *any* A-theory being true we ought conclude that we cannot know that we are present. This suggests he thinks the internalist ought be committed to something like the following argument. Suppose that actually, J is objectively present and believes that to be the case. Now consider K, in some possible world in which the objective and indexical presents come apart, and in which K is not located in the objective present. Further, suppose that K and J’s mental states are subjectively indistinguishable. So K, too, believes of herself that she is objectively present. Given internalism, J and K’s beliefs are justified to the same degree since their internal states are subjectively indistinguishable. J, however, cannot rule out that *in fact* she is in K’s situation, since things would seem exactly the same if she were in K’s situation. Hence J’s belief about being objectively present is not justified, and she fails to know that she is objectively present.

The key thought is that since J cannot rule out that she is, in fact in K’s predicament (or one just like it) she is not justified in believing herself to be objectively present. It is important to notice, here, that the claim that J’s belief that she is objectively present is not justified because she cannot rule out that she is in K’s situation, is equivalent to the claim that K’s belief is not justified. After all, it only follows that J’s belief is not justified in virtue of being unable to rule out being in K’s situation, if K’s belief is not justified. Call this the argument for temporal scepticism.

*The argument for temporal scepticism*

1. There is a possible K and J, such that K and J are in subjectively indistinguishable mental states and K is located in the objective past and J is located in the objective present.
2. Both K and J believe, of themselves, that they are located in the objective present.
3. If K and J are in subjectively indistinguishable mental states, then each of their beliefs that they are located in the objective present are justified to the same degree.
4. If K is located in the objective past, then K’s belief that she is located in the objective present is not justified.
5. Therefore K’s belief that she is located in the objective present is not justified.
6. Therefore, J’s belief that she is located in the objective present is not justified (from 6, 3)

 A quick side note is in order here. Given that many metaphysicians hold that whichever theory of time is true, it is true of necessity, the above might need to be amended. If either presentism or the block universe theory is true of necessity, there is no possible K who is located at a non-present time. Instead, the argument would need to be framed in terms of epistemic possibility: it is epistemically possible that there exists such a K, and J cannot rule out that she is in that epistemically possible K’s situation (and further, J cannot rule out that K is *merely* epistemically possible). None of this detail need detail us here, and readers are free to supplement talk of epistemic possibility wherever they see fit.

For my purposes what matters is that if the argument for temporal scepticism is sound (as it stands, or appropriately amended) then conditional on the block universe theory being true, block universe theorists fail to know that they are present. After all, such theorists will allow that *either* that there are possible worlds in which some non-presentist A-theory is true, or, at the very least, that it is epistemically possible that there are non-presentist A-theoretic worlds. So if the internalist is committed to the argument for temporal scepticism, then she is committed to holding that *no matter what our world is like, temporally speaking,* we cannot know that we are present. This, it seems, would give us good reason to reject internalism. Then if Cameron is right and the epistemic objection is sound only if internalism is true, we have good reason to conclude that the epistemic objection is unsound, since internalism is false.

But is the internalist committed to anything like the argument for temporal scepticism? To be sure, (3) is a core commitment of internalism about justification. But nothing forces the internalist to accept (4). Indeed, if the internalist accepts (4), and premises just like it, she will end up saying that we know practically nothing. None of us will know that we are not brains in vats given that there are possible brains in vats having subjectively indistinguishable experiences from ours. So on the assumption that internalism is not a hopeless theory of justification, and that internalists *can* reject (4), the argument for temporal scepticism fails. Crucially, then, the question is whether (4) and III stand together: conditional on the internalist rejecting (4), must she also reject III?

Let’s begin by asking what sort of internalist-friendly principle might license III. One possibility is something like the following:

**Strong Indifference Principle:** For all possible predicaments, P1…Pn, if P1…Pn are subjectively indistinguishable, then any rational agent ought to assign equal credence to each of P1…Pn.

If the Strong Indifference Principle is true, III is true. While the Strong Indifference Principle does not entail the truth of (4), or premises like it, it is as friendly to scepticism as such claims. On the assumption that there are plenty of possible brains in vats and persons deluded by demons having the same experiences as I am, it will turn out that I am not justified in believing that things are as they seem. Once I spread my credences over all those predicaments, it will be much more likely that I am located somewhere where things are not as they seem, than somewhere where they are as they seem. So if the Strong Indifference Principle is needed to license III, then since even the internalist ought reject that principle, she also ought reject III. Fortunately, it is not. A weaker principle such as the following will do:

**Weak Indifference Principle:** If predicaments P1….Pn are world mates, and P1…Pn are subjectively indistinguishable, then any rational agent should assign equal credence to P1…Pn.

The Weak Indifference Principle, which is something like the principle defended by Elga (2004), does not require that we spread our credences (evenly) over subjectively indistinguishable predicaments across all possible worlds. It only requires that we spread them over subjectively indistinguishable predicaments *in the actual world.* Conditional on our world being a growing block world, there are such predicaments. Conditional on our world being a presentist world, or a block universe world, there are no such predicaments.[[1]](#endnote-1) Given the Weak Indifference Principle, conditional on J believing, truly, that the growing block theory is true, J ought to distribute her credences over all the subjectively indistinguishable predicaments. Then J ought give very low credence to being in the objective present, hence regardless of where J is located, she does not know that she is in the objective present. By contrast, if J believes, truly, that presentism is true, she ought distribute her credences across all of the subjectively indistinguishable predicaments. But if presentism is true, there are no subjectively indistinguishable predicaments in which individuals are objectively non-present, and so J ought give high credence to being in the objective present. Hence J knows (or can know) that she is in the objective present.

So the Weak Indifference Principle is an internalist-friendly principle that licenses III, but does not render sound the argument for temporal scepticism. Still, Cameron has a further response. He thinks that insofar as we have reason to accept the growing block theory we have reason to think that, conditional on that theory being true, we are in the objective present. If that is right, then III is false. The idea, I take it, is something like this. Suppose I believe, truly, that I am in a world containing 100 simulations of me. Suppose, however, that the very reason I have to believe that I am in such a world is ipso facto a reason to think that I am *not* one of those simulations. Then conditional on my (truly) believing that I am in such a world, I ought give high credence to being a non-simulation, and very low credence to being each one of the simulations. Of course, the simulations ought also do this, given that their mental states are indistinguishable from mine. But that just means that my belief about not being a simulation it both justified and true, and theirs are justified and false.

The idea is that it is part of the growing block theory itself that each of us is in the objective present, so if we have reason to accept that theory, we have reason to reject III. But is it really part of the theory itself that each of us is objectively present? Certainly it is part of the *motivation* for *accepting* the growing block theory that we suppose there to be an objectively present metaphysically special moment. Moreover, it is part of the motivation for accepting that theory that we suppose *this very moment* to be that metaphysically special moment. Let’s call the growing block theory that is a theory of our actual world, the @ growing block theory. Further, let’s take it to consist in the set of <w, t, S> triples for every S and t in @. If we do this we see that there is nothing in the theory that singles out one of these triples as the being the way things are *now*. If all we had in front of us was that theory, we would have no idea at all whether some particular slice, S, is now present, or not.

Perhaps one might object that this is a mischaracterisation of the @ growing block theory. Perhaps that theory is a theory that includes only some proper sub-set of the <w, t, S> triples, so that each S appears only once in the theory. Then the theory does tell us which slice is objectively present. Whichever triple contains a time, tn, such that there are no later times in any other triple in the theory, *that* time is the objectively present one. So whichever slice exists at that time, that slice is objectively present. If the latest time to be found in any triple is t100, then the triple <w, t100, S100> is the objectively present one and S100 is the objectively present slice. In effect, then, there is a *different* true growing block theory at each objectively present time. If we have reason to think that some particular growing block theory is true, then we have reason to think that, for example, S100 is objectively present: for that is what the theory says is the case.[[2]](#endnote-2)

 This, it seems to me, is not the right way to think about the @ growing block theory. After all, the theory is supposed to be a theory of temporal passage. On the account just offered the theory is a theory of something entirely static. Any @ growing bock theory is really just a theory according to which our world is a block universe. Nothing is *happening*, according to such a theory. Of course, a different @ growing block theory will be true in an instant, one which includes, as its posits, an additional slice of being that was not posited by the previously true theory. But that theory, too, is one according to which our world is static. In order to capture the dynamism in a growing block world the theory needs to include *all* of these static models. It needs to be a theory according to which there are triples of the form <w, t1, S1>, <w, t2, S1>, <w, t2, S2> and so on. For that, at least, represents that slice S1 exists at t1, when t1 is objectively present, and that S1 exists when t2 is objectively present, but that at that time it is S2 that is present, and so on. But once we include all these triples as part of the theory it is not true that the theory itself is one according to which the slice we are on is, *according to the theory itself*, objectively present. Far from it: it is a theory on which any particular slice on which we are located is mostly, according to the theory, in the past.

 If that’s right then this response fails: we don’t have reason to think that conditional on the growing lock theory being true, we are in the objective present. Furthermore, we have seen that there are versions of internalism that entail the truth of III, but do not render sound, the argument for temporal scepticism. So it is not true that we ought reject internalism in favour of externalism because internalism leads us to widespread temporal scepticism in which none of us can know that we are present, nor is it true that the epistemic objection is no special problem for the growing block theory because the problem generalises to theories such as presentism. Rather, plausible versions of internalism are ones in which the objection is precisely a special problem for just those views that posit the existence of both an indexical and an objective now, and hold that those actually come apart.

So let’s move on. Cameron argues that if one accepts any plausible version of externalism one ought reject III. How plausible is the contention that if externalism is true, then III is false? Consider, first, an externalist view according to which our beliefs are justified iff they are produced by a reliable mechanism. Cameron supposes that each of our beliefs that we are present is produced by a reliable mechanism, and thus each is justified. But is that right?

It is a constraint on a mechanism being reliable that the ratio of true to false beliefs produced by the mechanism is in favour of the true beliefs. Suppose mechanism M produces 100 tokens of some belief, B. M is only reliable if most of those tokens of B are true.[[3]](#endnote-3) If only one token of B true, and the others are false, M is decidedly not reliable. In the case of the growing block we can focus on a *single* token of the belief ‘I am present’; a token that is located at, say, S1. We can look at the many truth-values to which that single token gets mapped, depending on the time of the mapping. Of all the mappings of that token to a truth-value, how often is the token mapped to true, versus being mapped to false? Well, it is mapped to true just once, and to false in every other mapping.

On the face of it there seems no appreciable difference between a mechanism that produces 100 token beliefs of B, 99 of which are false, and a mechanism that produces a single token belief, which is mapped to truth-values 100 times, such that 99 of those mappings map the token to the value, false. If the mechanism is unreliable in the first case, it is equally unreliable in the second case. And if that is right, then externalist theories of justification that appeal to reliability do not provide the resources to deny III. For in a growing block world my belief that I am present is not justified, since the mechanism that produced that belief is not reliable.

 What of a version of externalism that cashes our justification entirely in causal terms? The idea here is that a belief is justified iff it is caused by the thing the belief is about. On the face of it such a view seems to fare better. If my belief that I am present is caused by me being present, then I am justified in believing that I am present, and III is false. Matters are not, however, so straightforward. What is the propositional content of the belief that I am present? If I am a perduring object, then the belief has the content that a particular temporal part of me—call it FRED—is objectively present (i.e. is located at the end of the growing block). If I am an enduring object, then the belief has the content that the me that is wholly located at a particular three-dimensional location—call that thing Fred-at-L1—is objectively present. For simplicity, I will assume that objects perdure, but everything I say can be translated from talk of FRED, a temporal part of me, to talk of Fred-at-L1, talk of wholly located me, at L1. So consider the token belief ‘FRED is in the objective present’. If the belief that FRED is in the objective present is caused by FRED being in the objective present, then the belief is justified. Clearly, though, if can only be that FRED’s being in the objective present causes the belief that FRED is in the objective present, on the assumption that causation is, in this case, non-local (i.e. on the assumption that the cause is not temporally separated from the effect). That is, indeed, a controversial assumption. It is much more likely that the belief that FRED is in the objective present is caused by some earlier temporal part of me, FRED\*, having once been present. But my belief that I am present is not the belief that some earlier temporal part of me was once present, it’s the belief that I am, now, present. While it’s true that my *having been present* caused my belief that I *am* present, it is not true that *my being present* causes my belief that I am present. In that case my belief that I am present is *not* caused by the thing that my belief is about. And while I do not rule out that there are ways of finessing an account of the content of my belief that allows is to be combined with the causal theory of justification to render it true that my belief that I am present is caused by my being present, it remains far from obvious that if the causal theory of justification is true, then III is false.

So far, then, we haven’t met a version of externalism that obviously delivers the results Cameron wants: namely that we are each justified in believing, of ourselves, that we are objectively present. Still, one might think if III relies on the Weak Principle of Indifference the epistemic objection is still in trouble since externalists ought reject that principle. The Weak Indifference Principle is insensitive to the different ways in which subjectively indistinguishable mental states are connected to the world; but it is precisely these different worldly connections that the externalist takes to be central to the justification of beliefs. Is there, then a principle that would license III, but which even the externalist can accept? There is. Consider the Weaker Indifference Principle:

**Weaker Indifference Principle:** If predicaments P1….Pn are world mates, and P1…Pn are subjectively indistinguishable, and if P1…Pn are each embedded in the relevant environment in the same manner, then any rational agent should assign equal credence to P1…Pn.

The Weaker Indifference Principle does not say that if I have subjectively indistinguishable experiences from 100 actual brains in vats, I ought to distribute my credence equally over being in each of those predicaments. For I am not embedded in my (relevant) environment in the same way that each of the brains is embedded in its environment. The principle does say that, (conditional on certain things being true of each brain in a vat) each brain ought to distribute *its* credences equally over each brain-in-a-vat predicament: each brain ought to assign equal credence to being any one of the brains in a vat. There is no reason why the externalist should reject the Weaker Indifference Principle: for she can simply read “relevant environment” as being *whatever* features of the environment she takes to be relevant to justification. If those features are the same across some set of predicaments, then it seems reasonable for even the externalist to think that one ought distribute one’s credences equally over all such predicaments.

Arguably, though, the Weaker Indifference Principle is all the defender of the epistemic objection needs. What is the relevant environment? Plausibly, the aspects of the environment that are relevant when we consider the experiences of some individual and the beliefs formed on the basis of those experiences, are the nexus of causal relations that produce that experience. Suppose, then, that the relevant environment is the causal history of the predicament: two predicaments count as being embedded in the (relevant) environment in the same manner, iff their causal histories are sufficiently similar. If what matters is causal history, though, all of the subjectively indistinguishable predicaments in the growing block world are embedded in the relevant environment in the same manner. For every predicament in any set of S-predicaments shares the *same* causal history with any other predicament in that set. For example, if what causes a belief tokened at S4, of ‘there is a red chair’ is the presence of a red chair at S1, then it is, tenselessly, the case that the red chair located at S1, is the cause of the belief, tokened at S4. It doesn't matter whether we examine the causal facts about that belief when S4 is objectively present, or later, when S201 is objectively present: it will, tenselessly, be the case that the chair at S1 caused the belief at S4. So if having the same (or appropriately similar) causal history is what is required for being embedded in the relevant environment in the same manner, then any token belief of ‘I am present’ located on some particular slice, and evaluated at different times, meets that constraint. Since externalists can accept the Weaker Indifference Principle, and since according to the Weaker Indifference Principle III is true, contra Cameron, plausible versions of externalism are consistent with the truth of III.

 Given all this it is, perhaps, unsurprising that recent defenders of the growing block theory choose to reject II and develop versions of the new growing block theory. In order to reject II the defender of a new growing block theory must meet the distinguishability imperative by showing that the way things are, when a time is objectively present, is subjectively distinguishable from the way things are when that time is objectively past. Defenders of the new growing block have offered a number of alternatives in this regard. In the following section I consider these, and some others besides. I argue that in order to meet the distinguishability imperative the new growing block theorist ends up with a theory of truthmaking that renders her view less attractive than that of the presentist.

**3. Twiddling with Truthmakers: Unified Approaches**

I take it to be a virtue of any version of the growing block theory that it provides a *unified* approach to truthmaking, where an approach to truthmaking is unified just in case the sorts of truthmakers it posits for present-tensed propositions[[4]](#endnote-4) are the same as the sorts of truthmakers it posits for past-tensed propositions.[[5]](#endnote-5) In this section I consider three unified approaches to truthmaking open to the growing block theorist. I call these Past Record Truthmaking, Hyper-temporal Record Truthmaking and Present Record Truthmaking. Here is a principle Cameron (2015) calls Past Record:

**Past Record:** If something was the case, then it is the case in the past.

According to Past Record, if it was the case that Caesar believes that water is wet, then it is the case, in the past, that Caesar believes that water is wet. The block universe theorist accepts Past Record. She thinks that whatever is, was, or will be, the case at some time, is, atemporally, the case at that time. Anyone who accepts Past Record can provide truthmakers for past-tensed truths that are just like the truthmakers they provide for present-tensed truths. In so doing, one accepts Past Record Truthmaking:

**Past Record Truthmaking:** Past-tensed truths are made true by the way the world is, in the past.

Past Record Truthmaking says that if ‘there were dinosaurs’ is true, it is made true by there being dinosaurs in the past. Thus what makes true ‘there were dinosaurs’ is exactly the same kind of thing as what makes true ‘there are dinosaurs’: the presence, at the relevant time, (now, or a time earlier than now) of dinosaurs. Block universe theorists can, and do, accept Past Record Truthmaking. The growing block theorist can also accept Past Record Truthmaking. Indeed, this had, until recently, been thought to be a distinctive advantage of the old growing block theory over presentism.

For the presentist must reject Past Record, and, with it, Past Record Truthmaking, since she holds that there are no past events or individuals. Thus past-tensed propositions about dinosaurs cannot be made true by the existence, in the past, of dinosaurs. Instead, presentists either have to hold that past-tensed truths lack truthmakers but are true nonetheless (Tallant 2009; 2010) and Merricks 2007 embrace this strategy) or they have to find present truthmakers for these truths (Bigelow (1996) endorses this strategy. See Keller (2004) and Caplan and Sanson (2011) for discussion of these issues).

There are various options for finding presently existing truths for past-tensed propositions. But since, for instance, there are no dinosaurs in the present, whatever the presentist posits by way or truthmakers for past-tensed propositions about dinosaurs, those things will not be the dinosaurs themselves. So the truthmakers for past-tensed propositions will be appreciably different in kind to the truthmakers for present-tensed propositions. In either case the presentist must embrace a non-unified approach to truthmaking. For she must either maintain that past-tensed propositions, in contrast to present-tensed propositions, do not need truthmakers, or that the truthmakers for past-tensed propositions are very different from the truthmakers for present-tensed propositions. This lack of unity is typically taken to be a cost of presentism, a cost that the old growing block theory did not incur because it accepted Past Record Truthmaking.

The *new* growing block theorist, however, cannot accept Past Record Truthmaking. For the new growing block theorist rejects II. After all, if it is presently the case that it seems to Sam that it is the objective present, we expect that, in a few days time, the past tensed proposition “it seemed to Sam that it was the objective present” will be true. But the past-tensed proposition will, according to Past Record Truthmaking, be made true by the existence, in the past, of Sam, and its seeming to him that it is the objective present. But if Sam exists in the past, and is such that it seems to him that he is in the objective present, then there is no difference between how things seem to Sam when he is in the present, and how they seem to him when he is in the past, with respect to its seeming to be the objective present. And *mutatis mutandis* for every other way things seem to Sam in the present and in the past. Thus Sam’s present and past predicaments are subjectively indistinguishable, and II is true. Hence the new growing block theorist must reject Past Record Truthmaking if she is to reject II. So let us move on to consider a second unified strategy.

Suppose one thinks that what makes any proposition true is how things *are*, or *were*, in the present. Any dynamical theory posits *A-time*—it posits the existence of an objectively privileged moment and holds that which moment that is, changes. The movement of A-time consists in the movement of this objectively privileged moment. For the growing block theorist, A-time is modelling by the accretion of new time-slices at the end of the block. For the presentist it is usually modelled by the change of a single time-slice. At any time in A-time, only one time is objectively present.

Both the presentist and growing block theorist can talk about what the world was like, at some other A-time, when some other slice was objectively present. Given this, it seems natural to suppose that past-tensed propositions are made true by how the world is, at some other earlier A-time. Indeed, the growing block theorist might hold, following Correia and Rosencranz (2013), that what exists at each A-time is a block universe[[6]](#endnote-6) but that what exists *in* that block are not genuinely *times* at all. Genuine time is A-time. So what exists within each block universe at each A-time are hyper-planes (or slices, as we have been calling them) that are merely quasi B-related: there is an ordering of those hyper-planes imposed by the geometry of space-time and that ordering is such that the hyper-planes are quasi B-ordered in the same order that they came into existence in A-time. One way to think of this is that the indexical ‘now’ always points at a slice when it is at the end of the block, because that slice is not a *time* at all when it is within the block. If so, it is natural to suppose that what makes true any past-tensed proposition is not how things are in the back block—in that part of the block universe that does not include the objectively present time—but rather, how they are at each A-time (i.e. at a time, when it is objectively present).

The problem is that we run the risk that there are no records of how things were at previous A-times. Although the growing block theorist thinks that the past exists, (setting aside positing hyper-time for now) she does not think that there is, any longer, a record of how the world was at some previous A-time when a slice that is now past, was objectively present. If one thinks that there are no longer records of how things were at earlier A-times, but that how things were at those times makes true, past-tensed propositions, then one will conclude that no past-tensed proposition is true. The things that would have made such propositions true, fail to exist.

 One might, however, hold that while there are no longer, *in time,* any ways things were, at earlier A-times there are, nevertheless, ways things were at previous A-times. Imagine looking down on an unfolding dynamical universe: what makes such a universe dynamical is that it is, at each A-time, different. Along what dimension does the universe change with respect to A-time? One answer is that it changes with respect to some further time-like dimension: call it hyper-time. On such a view each A-time maps onto a distinct hyper-time. While there is no longer, in A-time, any record of the way the world was, when some slice that is now in the past, was present, there is a record, simpliciter, of the way the world was: a record in hyper-time.

 According to this version of the growing block theory each moment of hyper-time corresponds to a moment in A-time. At each moment of hyper-time there exists a block universe: a universe of moments ordered in B-time (or, if you prefer, quasi-B-time). At hyper-time Ht, it is A-time t, iff the last slice of the block at Ht is t. Relative to A-time t, call all of the slices that are earlier in B-time the *back block* relative to t. Relative to different A-times, then, there exist back blocks of different sizes.[[7]](#endnote-7)

 Hyper-time, taken as a whole, is a complete record of all of the ways the universe once was, with respect to A-time. If there was an A-time at which the universe was a certain way, then that A-time, and that way, exists at some hyper-time. Such a view naturally leads to Hyper-temporal Record Truthmaking:

**Hyper-temporal Record Truthmaking:** past-tensed truths are made true by the way the world was, at some earlier A-time, at some moment in hyper-time.

The growing block theorist can embrace Hyper-temporal Record Truthmaking. Suppose, for instance, that at t1 in A-time, John is flat. Suppose the current time in A-time is t7, which is later than t1 in A-time, and we are evaluating “John was flat”. That proposition is not made true by looking *backwards* to the back block and seeing how things are, in the back block, at t1. Rather, it is made true by looking to some other hyper-time, a time at which it is t1 in A-time, and seeing how things are at t1 at that moment in hyper-time. If John is flat at t1 at a moment in hyper-time when it is t1 in A-time, then “John was flat” is true.

 If the new growing block theorist embraces Hyper-temporal Record Truthmaking then she is free to reject II. For her, the truthmaker for past-tensed propositions is not the way things are in the back block. So she is free to hold that how things are, at t1, when it is t1 in A-time, is not how things are at t1, when t1 is in the back block. Of course, being committed to Hyper-temporal Record Truthmaking does not *entail* that II is false, it is simply consistent with the falsity of II.

 There are reasons to be suspicious of Hyper-temporal Record Truthmaking, not least because it posits hyper-times and that is a cost to parsimony. Moreover, since hyper-temporal truthmaking requires that all the hyper-times a-hyper-temporally exist, it had better not be that hyper-time is dynamical. Then, one might think, although our world is not a four-dimensional block universe, it is really just a static five-dimensional block universe. Let us ignore these worries; they are, at best, reasons to prefer the block universe view to any A-theoretic hyper-temporal view, and not a reason to prefer presentism to the new growing block theory. The real problem lies in the fact that the presentist can embrace Hyper-temporal Record Truthmaking. For her, at each hyper-time there exists a single slice, but at each hyper-time that slice is different. Each hyper-time bears record to how things were at other A-times.

 The problem for the new growing block theory is that a presentist version of hyper-temporal truthmaking is preferable to her own. A presentist version will afford essentially the same truthmakers as a new growing block theory: the ways things are, at earlier A-times, at hyper-times. Yet this kind of presentism is substantially more parsimonious than its growing block rival. While each agrees that it is a different A-time at each moment of hyper-time, they disagree about what exists at each hyper-time: for the new growing block theorist what exists is a block of slices, for the presentist what exists is a single slice. Not only does positing the block render the new growing block theory less parsimonious than its rival, but that lack of parsimony is not off-set by the benefit of providing truthmakers for past-tensed propositions since on this view the back block is not involved in truthmaking. What does the truthmaking work, for both accounts, is the single slice, at each hyper-time, that is objectively present. The remainder of the block, posited by the growing block theory, is redundant So if one is going to endorse such an approach to truthmaking one ought prefer presentism to the new growing block theory.

 There is one final unified approach to truthmaking that the growing bock theorist might endorse. This is the view I call Present Record Truthmaking.

**Present Record Truthmaking:** Past Tensed truths are made true by the present way the world is.

It is clear why the presentist might accept Present Record Truthmaking: for she thinks that if there are truthmakers for past-tensed propositions, these must be things that exist in the present. There are various versions of presentist Present Record Truthmaking, from those that accept primitively tensed properties of the present state of the world (Bigelow (1996) through to those who think there presently exist abstract entities—ersatz times·(Bourne, 2006; Crisp 2003), through to those views according to which there presently exist uninstantiated haecceities of individuals who no longer exist. IN each case these presently existing things are the truthmakers for past-tensed propositions.

The new growing block theorist could accept any extant Present Record Truthmaking view that has been developed by presentists. But in doing so she will be placed in a familiar dialectical bind. If one is going to appeal to features of the present to ground past-tensed truths, why posit the existence of the back block? At least with respect to the issue of truthmaking, the back block is an unnecessary cost to parsimony. So, with respect to truthmaking, presentism combined with Present Record Truthmaking will be preferable to the new growing block theory combined with Present Record Truthmaking.[[8]](#endnote-8)

The only Present Record Truthmaking view that has a chance of rendering the new growing block theory preferable to presentism in the truthmaking stakes will be on that puts to work what exists in the back block. A view in this vicinity has recently been offered by Cameron (2015) as an account amenable to moving spotlight theorists. On this account, what is the case, now, is what is the case *simpliciter*. What was and will be the case has no reality. Nevertheless, there exist non-present things and those things are, now, a certain way. So what makes past-tensed propositions true? Cameron appeals to temporal distributional properties. These properties are like more familiar distributional properties such as being stripy or polka dotted, except that temporal distributional properties are distributed across time rather than (only) across space.

According to Cameron, objects have both temporal distributional properties and ages. The former describe how an object is across time; the latter say what age an object has. The age of an object, in combination with its temporal distributional property, fixes how an object is, was, and will be. Which substances exist, *simpliciter*, does not change. So if “Caesar exists” is ever true, it is always true. But how those substances are, *simpliciter*, does change, because everything that exists instantiates an age and a temporal distributional property and things change with respect to the former. The temporal distributional property that an object has, now, makes it the case that, combined with that object’s age, it is a certain way now, and that it *was* some way. So the temporal distributional property of the object is the truthmaker for both present and past-tensed propositions about that object.

 This account of truthmaking is developed with the moving spotlight theory in mind. But the new growing block theorist could embrace an amended version of the story. She cannot hold that temporal distributional properties never change: after all, she must hold that an object’s temporal distributional property changes as new slices come into existence. She can, however, say that a temporal distributional property only ever changes by gaining new properties as the object ages and additional slices are added to the universe. It is never the case that something that now exists has a temporal distributional property that says that it is certain way when it is a certain age, and later it have a temporal distributional property according to which it is some different way at that same age. The new growing block theorist can say the following: if according to the temporal distributional property of an object, O, O has intrinsic property I when it is aged N, and if O is aged N at t, then at all times later than t, O’s temporal distributional property says of O, that O has intrinsic property I at age N.

 Call an appeal to temporal distributional properties as truthmakers for past-tensed propositions *TDP Present Record Truthmaking* to distinguish it from presentist-friendly versions of Present Record Truthmaking. In itself, TDP Present Record Truthmaking tells us nothing about the truth or falsity of II.

Indeed, one version of TDP Present Record Truthmaking entails the truth of II. If we think that it is now the case that Caesar instantiates the TDP he does in virtue of Caesar being a certain way at certain locations within the block, then it must be that II is true. That is, I think, a natural way to think of things. Consider a spatially distributed property such as being polka dotted. Why does region R instantiate the property of being polka dotted right here? Because it instantiates the property of being red at one region, and white at one region, and red at still some other region, and so on. If it weren’t for the fact that R has certain properties at certain sub-regions of R, it wouldn't be that R instantiates the spatially distributional property of being polka dotted, here. It is implausible indeed that nothing is the case, at sub-regions of R that are not *here,* and yet it still be that R instantiates the property, here, of being polka dotted. Of course, it is natural to read ‘here’ as being an indexical in this case, which is precisely not the view of ‘now’ at issue. Still, it is not so very implausible that the reason Caesar, now, instantiates a TDP according to which he has certain properties when he is a certain age, is that there is some location in the back block at which he is that age, and instantiates those properties. On that version of TDP Present Record Truthmaking, then, II is true. So that cannot be the version at issue here.

 Another option is for the growing block theorist to say that the TDP that objects now instantiate are *tensed*. Caesar has the distributional property of having-been-a-baby-having-been-a-general and so on. If TDPs are composed of tensed properties, then II might, for all we know, be false. For we cannot infer from the fact that Caesar now has the TDP according to which he was P, that he is, in the past, P. Instead, what grounds its now being true that Caesar was a certain height is that he now instantiates the past-tensed property (as part of his presently instantiated TDP) of *having* *been* a certain height. That view, however, is no improvement over presentism, since in effect it’s just a presentist-friendly version of Present Record Truthmaking: it’s the view that past-tensed propositions are made true by presently instantiated past-tensed properties. Once one has that view it’s hard to see what advantage accrues to the growing block theorist, of positing the back block. So, once again, presentism is preferable.

A third option takes us back to the version of TDP Present Record Truthmaking Cameron endorses. It hinges on the claim that what is the case, now, is the case *simpliciter*. The idea is that objects do not instantiate the TDPs they do in virtue of them instantiating, at past locations, certain properties. Rather, TDPs are fundamental: they specify how an object *was* at previous times, but do not entail anything about the way the object is, at that past location. So, for instance, Caesar had a certain height at t1, and a different height at t2. That Caesar *had* those properties at those times is made true by Caesar *now* having the temporal dispositional property and age that he does. But Caesar’s present age and temporal dispositional property mean that Caesar *now* has no height because his temporal dispositional property describes him as having a height only for some initial portion of his life—namely 55 years—and that portion is over. Since there is no way things are in the back block, II is false.

 So then what role does the back block play in truthmaking? The new growing block theorist contends that objects have the TDPs they do because there were, earlier in A-time, slices at which those objects instantiate certain properties. Since TDPs do not change, this determines that those objects now instantiate TDPs that say that those objects instantiate those properties at those slices. But no record remains of how things were at those A-times beyond the instantiation, in the present of the relevant TDPs. In this regard the new growing block theorist is in the same position as the presentist. For the presentist also thinks that things were a certain way at earlier A-times, but that there is now no record of things being that way. All that is left, as it were, is the imprint that those earlier A-times have left on the present. The only addition that the new growing block theorist makes to any of the truthmaking pictures proffered by the presentist is that she holds, and the presentist does not, that once an object comes into existence, it exists, *simpliciter*, thereafter. It is the existence of these objects, and their bearing the TDPs they do, that make true past-tensed propositions.

But in what sense do objects exist, *simpliciter*, for the new growing block theorist? Caesar exists, *simpliciter*, and bears certain TDPs. But since what is true is what is true now, what is true is that Caesar has no mass, height, mental states and so on. Since nothing is the case in the past, and since in some good sense Caesar is located entirely in the past, the object to which the TDP attaches is pretty thin. Indeed, it’s not clear why this view is preferable to the presentist’s alternative view according to which was presently exists is Caesar’s uninstantiated haecceity, such that said haecceity bears the past-tensed property of having been a certain way. In neither case can we say that there exists, *simpliciter*, a guy who is flesh and blood, and engaged in crossing rivers.

 So where does that leave us? There are three unified accounts of truthmaking: Past Record Truthmaking, Hyper-temporal Record Truthmaking and Present Record Truthmaking. The new growing block theorist cannot accept Past Record Truthmaking given that she aims to reject II. That leaves her with only two options. I have argued that if she accepts Hyper-temporal Record Truthmaking then she accepts a view that is also open to the presentist, and such that the presentist version of that account of truthmaking is substantially more parsimonious than the new growing block theorist’s version. Thus presentism would (other things being equal) be preferable to the new growing block theory if both embrace Hyper-temporal Record Truthmaking. Likewise, presentist versions of Present Record Truthmaking will be preferable to new growing block versions of this view since the former will be more parsimonious than the latter. Thus, once more, presentism will (other things being equal) be preferable to the new growing bock theory. Finally, I have argued that TDP Present Record Making either entails the truth of II or it collapses into a presentist-friendly version of Present Record Truthmaking according to which it is the present instantiation of past-tensed properties that makes true, past-tensed propositions, or the view is committed to the existence of a shadowy block at which nothing is the case, such that it is very unclear that the presence of the block affords the new growing block theorist any advantage over the presentist in the truthmaking stakes.

In conclusion then, the presentist account of truthmaking is to be preferred to that of the new growing block theorist. So far, though we have only considered unified approaches to truthmaking. What of disunified approaches? I consider these in the following section.

**4. Twiddling with Truthmakers: Disunified Approaches**

We noted previously that both presentists and growing block theorists might embrace the idea that what makes present-tensed and past-tensed propositions true, is how things are at the present A-time, or how things were at some previous A-time. If one thinks that previous A-times exist at hyper-times that are distinct from this hyper-time, then one can embrace Hyper-temporal Record Truthmaking. But suppose one thinks there is no hyper-time. Then one will hold that although there *were* truthmakers for past-tensed propositions (at previous A-times) there are no more. One would then be left with the view that past-tensed propositions are false, since what would make them true, fails to exist. That, in turn, is likely to lead one to reject the need for truthmakers altogether, and to suppose that past-tensed truths are true despite lacking truthmakers. To that end, one will embrace No Record Truthmaking.

**No Record Truthmaking**: There exist no truthmakers for past-tensed propositions. A past-tensed proposition, P, is true iff at previous A-times there did exist truthmakers for the present tensed analogue of P.

No Record Truthmaking is disunified in that it entails that although present-tensed propositions are made true by truthmakers, past-tensed propositions are true despite having no truthmakers, so long as their present tensed analogue did have a truthmaker. Since on this view past-tensed propositions lack truthmakers (although they did have them), the way things are in the back block plays no role in making past-tensed propositions true. Thus the new growing block theorist who embraces No Record Truthmaking is free to reject II, since she is not committed to holding that the way things are at some past slice S, is the same as the way they were at S, when S was objectively present.

 Setting aside the worry that No Record Truthmaking will be, by the lights of many, unattractive, another problem arises for the new growing block theorist. The problem is that her view will be overall less attractive than the view of the presentist who embraces No Record Truthmaking. After all, neither view can provide truthmakers for past-tensed propositions. But the new growing block theory fares somewhat worse overall, since her view has an additional cost to parsimony: it posits the entire back block, and worse, the back block does no work. So if No Record Truthmaking is one’s preferred account of truthmaking then, other things being equal, one ought to embrace presentism over the new growing block theory.

 There is a second disunified strategy: one that has become known as the *dead past hypothesis.* This is the strategy endorsed by Forrest (2004; 2006). According to this proposal, there is nothing that it is like to be a past person because phenomenology supervenes on incomplete causal processes, and there only exist incomplete causal processes (i.e. causes without effects) in the objective present. If there are no conscious persons in the past, then II is false. The cost of this proposal is its apparent disunity. Heathwood (2005) argues that defenders of the dead past hypothesis must say that some past-tensed propositions are made true in very different ways than other past-tensed propositions. For instance, consider:

CC: Caesar was conscious when he crossed the Rubicon

CW: Caesar was wet when he crossed the Rubicon

CW is made true by the existence of Caesar, in the past, being wet. Not so for CC. For according to the dead past hypothesis there is no conscious Caesar, in the past, crossing the Rubicon. So whatever makes true past-tensed propositions about conscious states must be different to what makes true past-tensed propositions about everything else. And that, Heathwood argues, is objectionable.

Forrest (2006) responds to this objection by arguing that his view is unified, it is just that unity consists in something different from what one might have supposed. The appropriate kind of uniformity, he argues, is not uniformity between past-tensed propositions about the mental states of objects, on the one hand, and past-tensed propositions about the non-mental properties of objects, on the other hand. Rather, the appropriate kind of uniformity is one that treats a past-tensed transformation of a proposition in a relevantly similar way to the way it treats the present-tensed version of that proposition when it was true. Consider CW and its present-tensed transformation, CW\*

CW: Caesar was wet when he crossed the Rubicon.

CW\*: Caesar is wet as he is crossing the Rubicon.

What makes CW\* true is the presence of a wet Caesar crossing the Rubicon. What makes CW true is the presence, in the past, of a wet Caesar crossing the Rubicon. In both cases the truthmaker is the presence of a wet Caesar crossing the Rubicon. Now consider the following two propositions about Caesar:

CC: Caesar was conscious when he crossed the Rubicon

CC\*: Caesar is conscious as he is crossing the Rubicon

What makes CC\* true? Consciousness, by contrast to wetness, supervenes on incomplete causal processes. Thus any claim of the form ‘Cause (C, E) is occurring’ will be made true by the combination of whatever it is that grounds that C is occurring and has a tendency to cause E, and it being the case that E does not exist. Thus CC\* is made true by the existence of some relevant C, (Caesar’s brain states at the relevant instant) and the non-existence of E (where E is the completion of the causal processes involved in Caesar’s brain states). Thus the truthmaker for CC\* is quite different in kind to the truthmaker for CW\*, despite each being present-tensed.

 Consider, then, the truthmaker for the past-tensed transformation of CC\*, namely CC. Forrest argues that any general claim of the form ‘Cause (C, E ) was occurring in R’ (where R is a region of space-time) is made true by whatever used to ground its being true that C is occurring and has a tendency to cause E, and what used to ground its being true that E does not exist. Thus CC is made true by the existence of the relevant C (Caesar’s brain states at the relevant instant) and something else. The something else is not the non-existence of E, since it is no longer true that E does not exist. But the old grounds for the present-tensed truth “E does not exist” *do* exist, since something grounds it *now* being true that there is no E within R or earlier than R. Thus the truthmaker for CC is the presence of C, and the existence of the omnitemporal fact that there is no E at the same time as, or earlier than, C.

The idea is that propositions about consciousness have different sorts of truth-conditions than propositions about, for instance, being wet, and an account is uniform insofar as it treats a sentence’s past-tensed transformation in the same way as its present-tensed version. Forrest argues that his account is unified in the relevant sense. Is it?

Suppose that at t Caesar is crossing the Rubicon. Then the truth of an utterance of CC\* at t does not supervene only on the way things are at t. For the truthmaker for CC\* is the presence of some relevant C, and the absence of any E. Let us think more carefully about the truthmaker for CC\*. The presence of C is straightforward enough. But what is the truthmaker for its being the case that E does not exist? One possibility is that the truthmaker for the absence of E is that there is no E located earlier than C, and there is no E located at the same time as C, and C is in the objective present. If C is in the objective present, then this entails that there are no later times than the time at which C occurs. In effect, to say that C is in the objective present is to say that there is some temporal totality fact to the effect: this time (t—the time at which C occurs) is the last time; there are no more. Call this temporal totality fact TT. Then the truthmaker for the absence of E at the same time as, or earlier than, C, is the block up to and including the time at which C occurs (t), plus the temporal totality fact that there are no more times. On this view the complete truthmaker for an utterance of CC\* at t is as follows:

**CC\*TM1**: (i) the presence of C at the same time as the utterance of CC\* (ii) the block up to and including the time at which C occurs and (iii) temporal totality fact TT.

Alternatively, it could be that the truthmaker for the non-existence of E is the presence of some negative fact: the negative fact that there is no E. Call that NFE. Then the truthmaker for an utterance of CC\* at t would be:

**CC\*TM2**: (i) the presence of C at the same time as the utterance of CC\* and (ii) NFE.

Now let us consider the truthmaker for an utterance of CC at t\*, where t\* is later than t. One possibility is that the truthmaker is, roughly, the presence of C earlier than the utterance of CC and that there is an absence of E earlier than, and at the same time as, C. What is the truthmaker for the absence of E earlier than, and at the same time as, C? Presumably it is the entire way the block is, up to and including the time at which C occurs. Then the complete truthmaker for an utterance of CC at t\* is:

**CCTM**: (i) The presence of C earlier than the utterance of CC (ii), the block up to and including the time at which C occurs.

Is CCTM adequate as a truthmaker for the truth of the utterance of CC at t\*? Certainly if the block up to and including the time at which C occurs is a way that does not include the obtaining of E, then the fact there E does not exist earlier than, or at the same time as, C, is evidence that when C was in the objective present, E did not exist. So at t\*, the way the back block is up until the obtaining of C is evidence that an utterance of CC\* at t would have been true. Arguably, though, the properties of the back block (the block when t\* is the objective present) do not entail that there was an A-time (t) at which an utterance of CC\* was (or would have been) true. Plausibly, it is possible for God to create a growing block universe with some of the block has “already grown”. To do so would be to create a block universe with slices that are B-related (or quasi- B-related) to one another, and such that that block universe subsequently accretes slices in A-time. Suppose the initial block universe includes all the times up to, and including, the time at which C occurs, as well as the later time at which E occurs. Then the presence of that block does not show that there was ever an A-time at which C was present and E did not exist, despite the fact that the existence of the block makes it true that E does not exist earlier than, or at the same time as, C.

 Thus the fact that in the back block C occurs, and there is no E earlier than, or at the same time as, C, does not entail that there was an A-time at which E did not exist. At best it is defeasible evidence to this having been the case. Yet if the presence of C, and the absence of E earlier than, or at the same time as, C, in the back block, do not entail that there was a time at which C was occurring and E did not exist, then they do not entail that Caesar was conscious when he crossed the Rubicon.

 In this respect the new growing block theorist is rather worse off than the old growing block theorist. For according to the latter, an utterance of CC at t\* is made true by how things are in the back block relative to t\*, and how things are in the back block is not sensitive to how the back block came into being. So the old growing block theorist can accept CCTM and be confident that the way things are in the back block entails the truth (or falsity) of an utterance of CC at t\*. By contrast, the new growing block theorist either has to say that it is impossible for God to create a block universe that accretes further slices, or she has to say that the presence of C, along with how things are in the block up to and including the time C occurs, is not the truthmaker for an utterance of CC at t\*, or she has to hold that the presence of a truthmaker does not entail the truth that it makes true. The last option looks unappealing. Since given the dead past hypothesis there is no way to specify a truthmaker for an utterance of CC at t\* that both entails the truth of CC and locates the truthmaker in the back block, the only options are either to reject the dead past hypothesis or to argue that the combination of a block universe with a growing block is impossible. Presumably the new growing block theorists will take the latter option.

 Since the growing block theorist already admits that there are possible worlds that combine A-theoretic and B-theoretic features, insofar as she holds that there exists a back block of slices that are B-related, it will not be straightforward to make the case that a growing block that grows from an existing block universe is impossible. But suppose there is a good story about why such a world is impossible, and thus that we can set aside the worry that the obtaining of the truthmaker described in CCTM does not entail the truth of an utterance of CC at t\*. It is still not clear that the grounds for the truth of an utterance of CC are relevantly similar to the grounds for the truth of an utterance of CC\*. CCTM looks quite different from either CC\*TM1 or CC\*TM2. Certainly, C is a component of all three. But CC\*TM1 appeals to a temporal totality fact and CC\*TM2 appeals to a negative fact. CCTM appeals to neither. So if CCTM is the right way to spell out the truthmaker for an utterance of CC at t\*, then the total grounds for the truth of CC\* when it is uttered at t, is significantly different to the grounds for the truth of CC uttered at t\*. It is not true that the past tensed transformation of CC\* (namely CC) has the same grounds as CC\* did, when it was true.

Of course, there is some interesting connection between the two grounds. And it is open to the new growing block theorist to argue that the truthmakers are similar enough, or similar in the right way, to uphold some appropriate unity principle. The point, though, is that this account of truthmaking is less unified than many others on offer. It is also more complex, being committed to claims about, *inter alia,* the supervenience base of conscious states, the impossibility of certain worlds (such as the block universe/growing block amalgam) and the impossibility of backwards causation in growing block worlds. At least, the new growing block theorist will need to reject the existence, in any growing bock world, of backwards causation where the cause is some conscious mental state. For there can be no such conscious mental state, and hence there can, for instance, be no backwards time travel of persons. So the dead past approach does the job in the following sense: it allows the new growing lock theorist to reject II. But the resultant view of truthmaking is less attractive than other views insofar as it is more complex, less unified, and incurs additional metaphysical commitments.

Perhaps the dead past approach to truthmaking is the best there is, given that the new growing block theorist is committed to rejecting (II). I am inclined to think that the strategy is less attractive than some of the presentist alternatives. If one is a presentist, then Hyper-temporal Truthmaking incurs no additional cost to ontology than that incurred by the new growing block theorist, but has a good account of why the existence of the relevant time-slice in hyper-time entails the truth of the relevant past-tensed propositions. Alternatively, the presentist who accepts No Record Truthmaking incurs no cost to parsimony at all, and although it is a hefty cost to admit that past-tensed truths lack truthmakers I find this no more peculiar than to suppose that the way the past is, does not entail the truth of all true past-tensed truths (or alternatively, to suppose that the past could only possibly come to be by the accretion of moments in A-time, from a single three-dimensional moment).

4. Conclusion

For fairly obvious reasons, the old growing block theory was sometimes known, informally, as the growing salami view. I think of the new growing block theory as more like the shrivelling sausage view. The past, on many versions of the new growing block theory, shrivels away insofar as things in the past are not like the full-blooded things of the present. The more the past shrivels, the more dissimilar it is to the present, and the easier it is to respond to the epistemic objection. Equally, though, the less compelling is the account of truthmaking that the new growing block theorist can offer, and the closer her account is to that of the presentist. For, in effect, she cannot appeal to the way things are, in the back block, to make true past-tensed propositions, since the way things are, in the back block, is not the way things were, when those past times were present. That means that the new growing block theorist has open to her only those truth-making resources that are open to the presentist, and so entails that her truthmaking story will be no better than that of the presentist. Yet at the same time, the new growing block theorist incurs costs to parsimony that the presentist does not: she is committed to the existence of the back block despite the block doing basically no work in making true, past-tensed propositions. In order to render her view more attractive than that of presentism the new growing block theorist needs to offer us something in return for us spending up big on an ontologically real past. Instead, the past she gives us is not worth the cost.

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1. At least, there are no subjectively indistinguishable predicaments in which some individuals falsely believe that they are present. [↑](#endnote-ref-1)
2. Thanks to an anonymous referee for suggesting this on Cameron’s behalf. [↑](#endnote-ref-2)
3. Though of course, that most of the beliefs are true is not sufficient for the mechanism being reliable. [↑](#endnote-ref-3)
4. In what follows I talk of past-tensed propositions. Not everyone might agree that there are tensed propositions (block universe theorists might not). Since growing block theorists suppose there to be such propositions, however, I take this to be harmless. [↑](#endnote-ref-4)
5. An account is fully unified if it provides the same sort of truthmakers for future-tensed propositions; but not everyone is going to think that being fully unified is desirable, and for the purposes of arbitrating the dispute between presentists and growing block theorists future-tensed propositions are irrelevant. [↑](#endnote-ref-5)
6. At the first moment of time it is a very thin block. [↑](#endnote-ref-6)
7. What is the relationship between the block universes that exist at different hyper-times? I do not think it matters very much for our purposes. Perhaps each block universe is numerically distinct, but there is some very strong similarity relation between the blocks, or perhaps slices of the block universe endure through hyper-time, so that the very same moment in A-time exists at multiple hyper-times. [↑](#endnote-ref-7)
8. Again, of course, there might be other reasons to posit the back block that do not appeal to the need to ground truths, which in principle could still render the new growing block theory preferable to presentism. The point here is that the growing block theory loses its traditional advantage over presentism in the truthmaking stakes. [↑](#endnote-ref-8)