**ANYTHING I CAN DO (WITH RESPECT TO TRUTHMAKING), YOU CAN DO BETTER (OR JUST AS WELL):**

**TRUTHMAKING AND NON-PRESENTIST DYNAMISM[[1]](#footnote-2)**

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**1. Introduction**

Let us call *non-presentist dynamism* any view according to which (a) a single moment of time is objectively present and (b) which time is objectively present changes and (c) objectively non-present times exist, and at least some of these are occupied by objects, events, or properties. Non-presentist dynamism has an advantage over presentist dynamism—the view that only present objects, properties, and events exist, and that which objects, properties and events there are, changes—in the truthmaking arena. Presentists have trouble finding plausible truthmakers for past (and future) tensed propositions,[[2]](#footnote-3) since no past, (or future) objects, properties, or events exist, which could make true said propositions. Hence presentists have to resort to one of two strategies. According to the first, nothing makes past (or future) tensed propositions true, though some are true nonetheless. For some class of propositions, the truth of said propositions does not *in any way* depend on ontology. This strategy rejects even the fairly weak requirement that for any proposition *P,* and worlds *w* and *v*, if *P* is true in *w* but not in *v*, then either something exists in *v* but not in *w* or else some n-tuple of things stands in some fundamental relation in *v* but not in *w*[[3]](#footnote-4). Call this account No Truthmaker:

**No Truthmaker**: There are no truthmakers for past-tensed truths.[[4]](#footnote-5)

Embracing No Truthmaker is typically taken to be a cost of presentism.[[5]](#footnote-6)

 According to the second strategy, some presently existing thing makes true past-tensed truths. Advocates of this strategy embrace *anti-aboutness* truthmaking, the view that while all truths are grounded in being, the truth of a proposition need not grounded in the thing(s) the proposition is about. Since past things do not exist, past-tensed propositions are made true by something other than what they are about. Such presentists endorse some version of Present Record Truthmaking.

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

One version of Present Record Truthmaking is Lucretian Truthmaking, the view that it is a presently existing past-tensed property that makes true, past-tensed truths (Bigelow 1996). Embracing any of these anti-aboutness strategies is typically taken to be a cost of presentism.[[6]](#footnote-7)

Since extant versions of non-presentist dynamism hold that past objects, events, and properties, exist, they seem to avoid the problems with truthmaking faced by the presentist, at least as regards past-tensed propositions. So it is these ‘easy case’ past-tensed truths upon which this paper will focus. There, the non-presentist dynamist can hold that it is the existence of past objects, properties, and events that makes true, past-tensed truths. She can accept both Cameron’s (2015) Past Record, and Past Record Truthmaking, leaving her with a superior view of truthmaking to the presentist, who can accept neither.

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

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

Matters are not, however, so straightforward. As I argue in section 2, in order to avoid what I call *the epistemic challenge* the non-presentist dynamist must reject Past Record and Past Record Truthmaking. Then an alternative to Past Record Truthmaking is needed that does not entail the truth of Past Record. I consider a number of proposals in sections 3 and 4 and argue that each collapses into either No Truthmaker or Lucretian Truthmaking: both views open to the presentist. Any advantage thought to accrue to the non-presentist dynamist over the presentist when it comes to truthmaking disappears. Instead, anything the non-presentist dynamist can do, (with resect to truthmaking), the presentist can do at least as well, (and often, better).

**2. The Epistemic Challenge and Truthmaking**

The epistemic challenge is a challenge to any version of non-presentist dynamism. Roughly, it is as follows. According to non-presentist dynamism, there exist many occupied non-present moments and only a single objectively present moment. So on the assumption that one cannot detect whether one is located in the objective present or at some objectively non-present moment, one ought to conclude that one is more likely to be located somewhere other than the objective present. Proponents of something like this argument include Bourne (2002) Braddon-Mitchell (2004) and Merricks (2006). As I shall understand the epistemic challenge, it is a challenge about what we ought to believe about where we are located, conditional on us believing some version of non-presentist dynamism*.* It is not best thought of, as Cameron (2015) does, as a challenge about what we can know about where we are located, conditional on us believing some version of non-presentist dynamism.*[[7]](#footnote-8)* I take the epistemic challenge to be as follows:

*The Epistemic Challenge*

Non-presentism dynamism is true.

If non-presentist dynamism is true, then one cannot detect whether one is in the objective present or the objective non-present.

If (2), then one ought conclude that one is not in the objective present given that there are very many more objectively non-present times than objectively present times.

Therefore, one ought to believe one is not in the objective present.

Therefore, one ought not believe one is in the objective present.

I will assume the inference from (4) to (5) holds, and therefore that the non-presentist must reject (2) or (3) (if she wishes to reject (5)). Let’s start with (3). I’ll begin by introducing the notion of *A-time* and *B-Time*. B-time specifies an ordering of events via the earlier than, later than and simultaneous with relations. A-time specifies which events are objectively present, which past, and which future. At each moment in A-time there exists a static block of events, with one moment singled out as objectively present, such that a *different* moment is singled out at each moment in A-time. Times within the block that have, earlier in A-time, been objectively present, are past. Call the totality of those times the *back block.* Times within the block that are not objectively present, and that have not, earlier in A-time, been objectively present, are future. Call the totality of such times (if there any) the *future block*. We can then distinguish ways things are, earlier in B-time, from ways things are, earlier in A-time. The former corresponds to the way things are in the back block. The latter corresponds to the way things are when some moment earlier in A-time is objectively present.

The argument for (3) is then as follows. Suppose one is at t\* and one wishes to ascertain whether t\* is objectively present. Consider the complete set of static blocks, one at each A-time. t\* exists in many[[8]](#footnote-9) of those blocks: but in all of the blocks but one, t\* is objectively non-present. Although what motivates non-presentist dynamism is the thought that *this very moment* is special, by being present, this does not show up in the model itself. It is no part of the model that this moment, t\*, is objectively present: none of the blocks in A-time has attached to it a little sticker that says: *this is the way things are NOW***.** So on the assumption that one cannot detect whether t\* is objectively present or not, one cannot determine which static block in A-time is the way things are *now*. Hence one ought to assign roughly equal credence to each static block being the way things are now. Since in all but one such block t\* is objectively non-present, one ought to think it vastly more likely that t\* is objectively non-present, than objectively present.

 Notice, too, that even if one ought not believe that one is in the objective present, it might still be that if one is in the objective present, and one believes so, then one knows one is, because, for instance, one’s belief is caused in a reliable way by one being in the objective present.[[9]](#footnote-10) (I don’t say this is right, only that for all I have said, it could be). At any rate, this is cold comfort if one ought not believe that one is in the objective present.

 As I see it (3) is true, and the only way for the non-presentist to resist the epistemic challenge is to deny (2) by finding a way in which non-present moments are distinguishable from present moments. She needs to defend what I call the Distinguishability Thesis:

**Distinguishability Thesis:** There is a respect, R, in which any time, t, when t is objectively present, is distinguishable from t, when t is objectively non-present.

The Distinguishability Thesis is inconsistent with Past Record. Recall:

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

Suppose Past Record is true. Consider any way things might seem to someone, and capture this in schematic form as X seems F to S. Now consider all the ways things might have seemed to someone, and capture this in schematic form as X seemed F to S. If Past Record is true, then any true instance of the schema, X seemed F to S, entails that it is the case, in the past, that X seems F to S. When t is present, the state of affairs of X seeming F to S makes true ‘X seems F to S’ and when t is past, it makes true ‘X seemed F to S’. So at t, X seems F to S whether t is objectively present or objectively non-present. Then there is no way things can seem to anyone, when a time is objectively present, that is distinguishable from the way things seem when that time is objectively non-present. So if the Distinguishability Thesis is true, Past Record is false.

 Rejecting Past Record entails rejecting Past Record Truthmaking. The latter says that past-tensed truths are made true by the way the world is, in the past. But if it is not the case that if something was the case, then it is the case in the past, then it cannot be that the way the world is, in the past, makes true, past-tensed truths. Hence, in order to reject (2) the non-presentist dynamist needs to find a replacement for Past Record Truthmaking that does not commit her to Past Record. In what follows I consider a number of proposals for alternative truthmaking principles that are consistent with rejecting Past Record. I argue that each collapses into either No Truthmaker or Lucretian Truthmaking: anything the non-presentist dynamist can do (in terms of truthmaking) the presentist can do too. Moreover, in some cases the presentist can do it better: for the non-presentist will sometimes need to reject plausible truthmaking principles the presentist can happily accept.

**3. An Alternative to Past Record**

I earlier introduced the distinction between A-time and B-time, which allows us to distinguish ways things are, earlier in B-time, from the way things are, earlier in A-time. This is an important distinction given the Distinguishability Thesis, whose truth entails that the way things are, when t is past (i.e. when t is in the back block) is *distinguishable* from the way things are, when t is present (i.e. when, in A-time, t is present). Given this, one natural suggestion is that past-tensed truths are made true by how things are at some earlier moment in A-time, *not* by how things are at some earlier moment in B-time. In order to ascertain what *was* true at t, we don’t look backwards in B-time by looking at the *back block* in order to find t, and see how things are at t. Rather, we go to a moment in A-time in which t is objectively present, and look to see how things are at t. According to this proposal, we should say the following:

**A-time Record:** If something was the case, then it is the case, at some earlier A-time.

A-time Record naturally leads to A-time Record Truthmaking:

**A-time Record Truthmaking:** Past-tensed truths are made true by the way the world is, at some earlier A-time.

Suppose that when t is objectively present it has property P, and when it is past it lacks property P: it’s having P is what makes t-when-present distinguishable from t-when-past. We want ‘at t, P’ to come out as true, and we want ‘it was the case at t, that P’ to come out as true. We don’t want the way t is, *in the objective past,* with respect to P (i.e. lacking P) to make true ‘it was the case, at t, that not P’. That is why we should look to how t is at an earlier A-time, and not how t is in the back block.

One might worry that how t is at an earlier B-time, and how t is an earlier A-time, are *truthmaking competitors*: each competing to be the truthmaker for past-tensed truths. One way around this is to deny that there is any B-time. Correia and Rosencranz (2013) suggest a proposal along these lines for a growing block version of non-present dynamism. We can generalise their proposal as follows. At each A-time there exists a block, such that a single hyper-plane in the block is singled out as the objective present. Call the totality of hyper-planes within the block that have, earlier in A-time, been objectively present, the *back block* and call the totality of hyper-planes within the block that are not objectively present, and that have not, earlier in A-time, been objectively present, the *future block*. A-time is the only genuine time. What exists *within* the back block and future block are not genuinely *times* at all; they are hyper-planes that are *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 time when it is objectively present, because it is not a *time* at all when it is in the back or future block. Since no hyper-plane within the back block is a *time*, no object, property or event that exists in the back block makes true any *past*-tensed proposition, and we have a principled reason to think that A-time Record Truthmaking is true, and Past Record Truthmaking false.

The problem with A-time Record is that (setting aside for now the view that there exists eternalist hyper-time) there are no records of how things are, at earlier A-times. There is only a single moment at which t is, in A-time, the objective present. At every other A-time there is no witness to this fact, other than t’s existence in the back block. But the way t is, in the back block, is precisely the witness we do not want. If there are no records of how things are at earlier A-times then there are no truthmakers for past-tensed propositions and A-time Record Truthmaking entails that no past-tensed proposition is true. In the face of this the non-presentist might abandon A-time Record Truthmaking in favour of No Truthmaker, on the grounds that both views commit her to the claim that there are no truthmakers for past-tensed propositions, it is just that the latter allows her to say that some such propositions are true, while the former does not. I will consider each option in turn.

Suppose the non-presentist dynamist endorses No truthmaker: past-tensed truths are true, despite there being nothing in ontology that makes them true. Then she is clearly no better off than the presentist who endorses No Truthmaker. Indeed, plausibly she is worse off. Consider the following thesis.

**Sufficiently Good Deserver Thesis:** If T[[10]](#footnote-11) is a sufficiently good deserver to make true, proposition P, and there are no better deservers to make P true, then T is the truthmaker for P.

The Sufficiently Good Deserver Thesis says is that if there is *some* sufficiently good deserver, T, to make P true, and there are no better deservers, then T makes P true, rather than, for instance, nothing making P true and P being false, or nothing making P true and P being true nonetheless. The Sufficiently Good Deserver Thesis is plausible and I will assume it to be true, though there is not space to defend it.

If the back block *is* a sufficiently good deserver to make true, past-tensed truths, then the Sufficiently Good Deserver Thesis entails that No Truthmaker is false, and Past Record Truthmaking true. Then the non-presentist dynamist is back where she started with regard to the epistemic challenge. So she must say that the back block is *not* a sufficiently good deserver to make true, past-tensed truths. Yet it seems plausible that the back block is a sufficiently good deserver to make true *most* past-tensed truths. On the assumption that most ways a time is, when it is objectively past, are the very same ways that time is, when it is objectively present, the back block will be a good deserver to make true most past-tensed truths. If that is right, however, the non-presentist dynamist is in a bind. For the following principle also looks pretty plausible.

**Unified Truthmaker Thesis:** Whatever *kind* of thing actually makes true some past-tensed truth, P, is the kind of thing that makes true every actual past-tensed truth.

The Unified Truthmaker Thesis says that the same *kind* of thing—a past object, property or event; a presently existing past-tensed property, an ersatz time, a presently existing haecceity, or nothing at all—makes true all *actual* past-tensed truths. On the assumption that the back block is a sufficiently good deserver to make true most past-tensed truths, the non-presentist dynamist has to give up either the Unified Truthmaker Thesis or the Sufficiently Good Deserver Thesis. For either the same kind of thing makes true all past-tensed truths, (i.e. nothing) in which case despite the back block being a sufficiently good deserver to make true many of those truths, it fails to do so (the Sufficiently Good Deserver Thesis is false) or the back block makes true most, but not all, past-tensed truths, (the Unified Truthmaker Thesis is false). In either case the non-presentist is *worse* off than the presentist.

So suppose, instead, the non-presentist dynamist accepts A-time Record Truthmaking and concludes that all past-tensed propositions are false since they lack a truthmaker. Again, the non-presentist will need to resist the claim that the back block is a sufficiently good deserver to make true, past-tensed propositions, else she must reject A-time Record Truthmaking in favour of Past Record Truthmaking. But on the assumption that the back block is *not* a sufficiently good deserver to make true, past-tensed truths, and that they are, in fact, false, the non-presentist will still want to allow some important difference between ‘Annie was awesome’ and ‘Annie was a unicorn’.[[11]](#footnote-12) A natural way to capture that difference is to say that the former, but not the latter, is assertible.

The non-presentist dynamist might be tempted to say that what makes some past-tensed proposition assertible, though false, is that the present-tensed analogue of that proposition *was* true. ‘Annie is a unicorn’ was never true, and hence ‘Annie was a unicorn’ is not assertible. That won’t do, though, since ‘P was true’ is, according to A-record Truthmaking, strictly speaking false. A natural thought, then, is to hold that the former is assertible because there exist hyper-planes quasi-B-related to the present hyper-plane, at which Annie is awesome, but none at which she is a unicorn. ‘Annie is awesome’ is true, and is made true by the way things are at hyper-plane H, when H is objectively present. At some future A-time, ‘Annie was awesome’ is strictly speaking false; but it is assertible because ‘Annie is awesome at H’ is true. It is the way H is that makes the present-tensed proposition true when it is true, and the past-tensed proposition assertible when it is assertible. Even if the back block is not a sufficiently good deserver to make true, past-tensed propositions, it is surely a sufficiently good deserver to make true, tenseless propositions about what is the case on each hyper-plane.

None of this, however, is any help to the non-presentist dynamist. For H had better have the same qualities when it is objectively present as when it is in the back block. If, when H is in the back block, Annie at H is not awesome, then ‘Annie was awesome’ won’t be assertible. If the way hyper-planes are, tenselessly, vindicates the assertibility of ordinary past-tensed propositions, they will prove just as problematic as Past Record with regard to the epistemic challenge. So the non-presentist who adopts A-time Record Truthmaking is worse off than the presentist; she has to say that all past-tensed propositions are *false*, and then either has no account of in virtue of what some past-tensed propositions are assertible and others not, or she has such an account, but it is inconsistent with the Distinguishability Thesis and hence with resolving the epistemic challenge.

Up until now we have been assuming that there are no records of the way the world is, at earlier A-times. One might deny this. One might contend that although there are no longer, *in time,* any ways things are at earlier A-times there are, *simpliciter*, ways things are at earlier A-times. These ways exist at different hyper-times. Each moment of hyper-time corresponds to a moment in A-time. Then hyper-time, taken as a whole, provides a complete record of all of the ways the world once was, (and will be) with respect to A-time. Call this Hyper-temporal Record.

**Hyper-temporal Record:** If something was the case, then it is the case, at an earlier A-time, at some earlier hyper-time.

Hyper-temporal Record naturally leads to Hyper-temporal Record Truthmaking:

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

Hyper-temporal Record Truthmaking has a distinct advantage over A-time Record Truthmaking on the assumption that all hyper-times a-hyper-temporally exist, and hence that the relevant records exist. Moreover, when paired with the claim that hyper-planes are not times when they are not objectively present, it is plausible that the way things are, at earlier A-times in hyper-time, is a *better* deserver to make true, past tensed propositions, than the way things are, in the back block, at some hyper-time. Nevertheless, the non-presentist is no better off than the presentist who accepts Hyper-temporal Record Truthmaking. For the very same bits of ontology do the truthmaking work for both the presentist and the non-presentist: namely; it is the single hyper-plane, at each hyper-time, that is objectively present in A-time. The rest of the block (if such there be) that exists at that A-time is, for truthmaking purposes, redundant.

 At best then, none of these alternative truthmaking proposals give the non-presentist dynamist an advantage over her presentist rival in the truthmaking stakes, and, at worst, they give the advantage to the presentist. So let’s move on to consider another option.

**4. Present Record Truthmaking**

A remaining option is to endorse some version of Present Record Truthmaking that is better than any presentist version of Present Record Truthmaking. One version of Present Record Truthmaking that might fit the bill is Cameron’s (2011; 2015).

Cameron’s proposal is framed in terms of a moving spotlight version of non-presentist dynamism, but the proposal can be amended to suit the needs of other non-presentist dynamists. According to Cameron’s picture, if an object did, does, or will exist at some time, *t*, then it exists *simpliciter*. But *how* those objects are, *simpliciter*, changes, because everything that exists instantiates both an age and a temporal distributional property—a TDP. TPDs are tenseless properties that describe the distribution of properties that an object has over time (and space). Which TDPs an object has, does not change. Which *age* an object has, does change. The TDP that an object instantiates, combined with its age, makes it the case that it *is* a certain way, as well as making it true that it *was* a certain way, and *will* *be* a certain way. Call such a view TDP Present Record Truthmaking.

**TDP Present Record Truthmaking:** Past-tensed truths are made true by the ages of presently existing things and their present instantiation of a TDP.

A growing block version of TDP Present Record Truthmaking will amend Cameron’s picture in two ways. First, if an object did, or does, exist at some time, *t*, then it exists *simpliciter*. Second, TDPs *can* change, but only in certain ways. As each new slice of being is created, the TDPs of objects expand. Nevertheless, for every object O and its TDP, if according to that TDP O has P when it is aged N, then it will always be part of that TDP that O has P at N. In this sense, TDPs never *change* they merely *grow*.

Now suppose, as Cameron does, that what is the case, now, is what is the case *simpliciter*. Given TDP Present Record Truthmaking we can see why Past Record is false. Consider: Caesar’s TDP describes him as having a height only for some initial portion of his life—55 years—and that portion is over. Since what is the case, now, is what is the case *simpliciter*, and since it is now the case that Caesar has no height, it is not true that in 44BC, Caesar is 150cms tall, even if it is true that in 44BC, Caesar *was* 150cms tall.

 In what follows I consider TDP Present Record Truthmaking in more detail. I argue that the non-presentist dynamist faces a dilemma. Either TDP Present Record Truthmaking collapses into a version of Lucretian Truthmaking, or the non-presentist dynamist has to reject some plausible truthmaking principles. In either case, her view is at best as good as that of the presentist, and at worst, inferior.

**4.1 TDPs and Tense**

Let’s begin by noticing that there is some connection between the instantiation of a distributional property (of which TDPs are a kind) over a region, R, and the instantiation, at sub-regions of R, of certain properties. In particular, we should expect the following to hold:

SUP: Necessarily, if object O has distributional property DP, and DP is distributed across region R, then DP supervenes on the properties of O at the sub-regions of R.[[12]](#footnote-13)

We might even think that distributional properties *depend* on the properties instantiated at the sub-regions over which said distributional properties are distributed, or, alternatively, that the dependence goes in the opposite direction. There are various ways of explicating the notion of dependence. For simplicity, in what follows I go with the notion of grounding, which I take to be a variably polyadic relation that obtains between facts, understood as worldly entities comprised of objects, properties, and relations in a structured manner.

I regiment things as follows. I use [O-DP-R] to represent the fact that some arbitrary object, O, instantiates some distributional property, DP over some region, R. I use Δ(O-R∂) to represent a plurality of facts. Here, O picks out some arbitrary object, R picks out a region and ∂ picks out a particular complete decomposition[[13]](#footnote-14)of R into proper sub-regions r1…rn such that for each r, O instantiates some property, P, distributed over r. Thus the plurality will contain facts of the form [O-P-r] for each r in R specified by ∂.

We can then express two competing hypotheses about the direction of dependence. According to the first, the fact that O instantiates DP across R grounds the plurality of facts that O instantiates, at each r specified in ∂, some property, P across r.

DP-G: [O-DP-R] grounds Δ(O-R∂)

Here, I assume that for any complete decomposition of R into proper sub-regions each of non-zero extension, O’s instantiation of some P across r is the instantiation of a distributional property. So O’s instantiating some distributional property over R\* is grounded in O’s instantiating some distributional property over R, of which R\* is a proper sub-region. Further, if there is some complete decomposition of R into point-sized regions, then O’s instantiating a distributional property over R also grounds O’s instantiating, at each of the points in R, some non-distributional property.

According to the second hypothesis, the direction of dependence goes the other way: O’s instantiation of some distributional property over R is grounded in O’s instantiation of various properties (distributional or otherwise) over the sub-regions of R.

G-DP: Δ(O- R∂) grounds [O-DP-R]

I assume that grounding is asymmetric, and therefore at most one of DP-G and G-DP is true at any world. I return, in section 4.2, to the question of whether the truth of each might vary across worlds.

Notice that O’s having a distributional property necessitates its having *some* properties at the sub-regions over which that distributional property is distributed. Specifically, O’s having distributional property DP over R necessitates that at each sub-region of R, O instantiates a property that is part of DP’s supervenience base.[[14]](#footnote-15) It is tempting to say the following:

NEC: Necessarily, if O has distributional property DP, and DP is distributed across R, then for every sub-region, r, of R, O at r instantiates some property, P, that is in the supervenience base of DP.

NEC entails that if an object instantiates a TDP then it also instantiates, at each sub-region it occupies, some property that is in the supervenience base of that TDP. So if Caesar instantiates a TDP that charts his height across time, then, by NEC, at each of the sub-regions occupied by Caesar he will instantiate a property of having a particular height. So NEC entails Past Record. Since the non-presentist dynamist must deny Past Record if she is to respond to the epistemic challenge, she must deny NEC. She should replace NEC with NEC\*.

NEC\* Necessarily, if O has a distributional property DP, and DP is distributed across R, then there for every sub-region, r of R, either (i) O at r instantiates some property, P, that is part of the supervenience base of DP or (ii) O at r did instantiate some property, P, that is part of the supervenience base of DP or (iii) O at r will instantiate some property, P, that is part of the supervenience base of DP.

Remember, according to TDP Present Record Truthmaking we combine *tenseless* TDPs with the age of the object (which changes) to yield *tensed* *truths*. A TDP is tensed if it takes the form having-been-short-now-being-tall-going-to-be-fat, and tenseless if it takes the form being-short-then-being-tall-then-being-fat. In what follows I will not be interested in truth (tensed or otherwise), so I set aside the age of the object. I focus entirely on the connection between *the tense of the TDP* and *the tense of the properties instantiated at the regions over which the TDP is distributed*.

Consider any world in which G-DP and NEC\* are true. NEC\* and G-DP combined entail that O’s instantiation of some TDP is grounded in facts about the instantiation, by O, of tensed properties. If one thinks that *what it is* to instantiate some TDP is to instantiate this property here, and that property there, and this other property over there so that to instantiate a TDP just is to instantiate a conjunctive property, then it is easy to see why if each of the conjuncts is tensed, we should conclude that the TDP itself is tensed. But even if one thinks that the fact that some TDP is instantiated by O is grounded in, but not equivalent to, a plurality of facts, it is hard to see how something genuinely tenseless could be grounded in a plurality of *tensed* facts. Since the non-presentist dynamist is committed to NEC\*, it follows that any non-presentist dynamist world in which G-DP is true is one in which TDPs are tensed.

In any world in which TDPs are tensed, TDP Present Record Truthmaking collapses into a version of Lucretian Truthmaking. For suppose it is true that ‘Annie was awesome’. What makes that true, according to TDP Present Record Truthmaking, is that she presently instantiates some TDP that specifies that she is awesome at some age that is younger than she is now. Suppose the relevant portion of the TDP specifies that she is awesome at age 5. If, however, her TDP is tensed, then it takes the form: Annie-was-awesome-at-5-Annie-is-awesome-at-6-Annie-will-be-awesome-at-7 and so on. The relevant ‘component’ of the TDP that makes ‘Annie was awesome’ true, is the ‘Annie-was-awesome-at-5’ component. That is really just to say that what makes it true that Annie was awesome, is that she presently instantiates a past-tensed property of having been awesome. And that is just Lucretian Truthmaking. So if TDPs are tensed, the non-presentist dynamist’s TDP Truthmaking proposal collapses into Lucretian Truthmaking, and is no better than the presentist’s Lucretian Truthmaking.

**4.2 Grounding and TDPs**

On the assumption that the non-presentist wants to avoid this collapse she must maintain that TDPs are tenseless. So she must hold that in any non-presentist dynamist world G-DP is false. To be clear, the contention here is not that in any world in which G-DP is true, TDPs are tensed. That is surely not so—consider any block universe world in which G-DP is true: there is no reason to suppose that TDPs are tensed in such a world. Rather, the argument is as follows.

1. In any non-presentist dynamist world, NEC\* is true and NEC false.
2. If (a), then for any non-presentist dynamist world, w, if G-DP is true in w, then in w TDPs are tensed.
3. TDPs are not tensed.
4. Therefore, for any non-presentist dynamist world, w, G-DP is false in w.

The non-presentist dynamist must accept (c) lest her view collapse into Lucretian Truthmaker. She must accept (a) if she is to reject Past Record. And (b) is plausible, since if (a) is true, then facts about the instantiation of any TDP are grounded in facts about the instantiation of tensed properties. Hence the non-presentist dynamist must hold that in any non-presentist dynamical world, G-DP is false. At least, that is so on the assumption that she holds that that TDP Present Record Truthmaking is true in all non-presentist dynamical worlds if it is true in any of them. I assume she will want to say this, since we should expect that whatever *kind* of thing makes past-tensed truths, true, is the same in all worlds with the same underlying temporal metaphysics. Call this Truthmaker Consistency.

**Truthmaker Consistency**: If the underling metaphysics of time and temporal ontology is the same in worlds w…wn, then whatever *kind* of thing makes past-tensed truths true in one of those worlds, makes past-tensed truths true in all of those worlds.

In what follows I argue that (d) is false. There are non-presentist dynamical worlds in which G-DP is true. Hence the non-presentist dynamist either has to say that in such worlds TDP Present Record Truthmaking is false (and some other truthmaking principle true), or that in such worlds TDP Present Record Truthmaking is true, but collapses into Lucretian Truthmaking. In either case she must give up on Truthmaker Consistency, since what sort of thing makes true, past-tensed truths, will differ across the non-presentist dynamical worlds. This is a substantial cost. Moreover, the non-presentist must concede that there are non-presentist dynamical worlds in which truthmaking is as the presentist takes it to be: either by virtue of Lucretian Truthmaker being true, or in virtue of some other presentist-friendly view being true. For the only replacements for TDP Present Record Truthmaking that are consistent with the rejection of Past Record are ones the presentist can endorse.

 In what follows I argue for the falsity of (d).

 Consider what we should think about the modal status of DP-G and G-DP. Conditional on what has gone before, there are only two options open to the non-presentist dynamist. She must either hold that DP-G is true of necessity, or that DP-G and G-DP are each true in some worlds and false in others, with G-DP being false in all the non-presentist dynamical worlds. In what follows I offer an argument for the necessity of whichever of DP-G or G-DP is true, and then undermine an argument to the contrary. I then argue that if one of DP-G or G-DP is true of necessity, we have more reason to think it is the latter than the former. If G-DP is true of necessity, then (d) is false.

**4.3 The Modal Status of G-DP and DP-G**

Here’s an argument for the necessity of whichever of DP-G or G-DP is true. Suppose one is a necessitarian about grounding. I take this to be the view that if [x] grounds [y] in w, then for any world w\*, if [x] exists in w\*, then [y] exists in w\* and [x] grounds [y] in w\*. Suppose one is a contingentist about DP-G and G-DP. Plausibly, then, one will hold that there are two worlds, alike with respect to their distribution of distributional properties over some regions, but unalike with respect to whether DP-G or G-DP is true. Then one will think that for some [x] and [y], [x] grounds [y] in one world, and [y] grounds [x] in the other. But that is ruled out by grounding necessitarianism. So if one is a grounding necessitarian, one ought also be a necessitarian about DP-G and G-DP.

 Here’s an objection. This is the wrong account of necessitarianism. The necessitarian ought only hold that if [x] grounds [y] in w, then in every world in which [x] exists, [y] exists. Otherwise her view rules out contingentism about monism—the view that the whole is more fundamental than its parts–and pluralism—the view that the parts are more fundamental than the whole. Here’s why one should think this *is* the right account of necessitarianism. Consider [x] grounds [y]. What grounds that? The orthodoxy is that what grounds [x] grounds [y] is [x] itself. The grounds of grounds are super-internal. Suppose that is right. If it’s really super-internal to [x] that [x] grounds [y], we would expect not only that in every world in [x] exists, [y] exists, but we would expect [x] to ground [y] in all such worlds. Why should something super-*internal* to [x] be such that in some worlds [x] fails to stand in that relation? But then the necessitation principle just outlined is the right one, and one ought think that whichever of G-DP or DP-G is true, is true of necessity.

 Next, I undermine an argument in favour of contingentism about DP-G and G-DP. Here is the argument for contingentism. Make the following assumptions:

1. Possibly, space-time is gunky (where space-time is gunky iff for any region of space-time, that region has some proper sub-region).
2. Possibly, space-time is junky (where space-time is junky iff for any region of space-time, that region is a proper sub-region of some region).
3. Necessarily, grounding is well-founded, (where grounding is well-founded in w iff in w every grounding chain terminates in some fact (or facts) that are ungrounded).

Suppose, for reductio, that G-DP is necessarily true. Given (A), there is a world, w, in which space-time is gunky and G-DP is true. That world is one in which grounding is not well-founded (Schaffer 2003). But grounding is well founded, (C), therefore it is not the case that G-DP is necessarily true. Suppose, for reductio, that DP-G is necessarily true. Given (B) there is a world, w\*, in which space-time is junky and DP-G is true. In w\* grounding is not well-founded (Morganti 2009; Bohn 2009). But grounding is well founded, (C), therefore, it is not the case that DP-G is necessarily true. So assuming G-DP and DP-G are not both necessarily false, we should conclude that each is contingent. To put things the other way around, if we assume (A)–(C), then we must conclude that in worlds with junky space-time G-DP is true, and in worlds with gunky space-time DP-G is true.

 This argument ought not move the non-presentist dynamist. First, we can preserve the necessity of well-foundedness only if no world can be both junky and gunky—i.e. *hunky*, and it is not clear that this is so. Second, even if we have reason to think that are no hunky worlds, embracing contingentism will not allow the non-presentist dynamist to salvage the necessity of well-foundedness. Here is why.

Suppose one accepts (A)–(C) and, in addition, suppose (as is plausible) that a world’s being junky or gunky is consistent with its being a non-presentist dynamical word. Then there exists a non-presentist world in which space-time is gunky, w1, and another in which space-time is junky, w2. To preserve the necessity of well-foundedness the non-presentist dynamist must say that in w1 DP-G is true, and in w2 G-DP is true. But if she does that she must concede that in w2TDPs are tensed and therefore in w2TDP Present Record Truthmaking collapses into Lucretian Truthmaking. Moreover, she must say that the kind of thing that makes true, past-tensed truths across the non-presentist dynamical worlds varies. She must deny Truthmaker Consistency. So adopting contingentism about DP-G and G-DP in order to avoid some worlds failing to be well-founded does not deliver an attractive package of views to the non-presentist dynamist. If there is an argument in favour of contingentism that will be dialectically persuasive to the non-presentist dynamist, this is not it.

**4.4 In Favour of G-DP**

So suppose one accepts that one of G-DP or DP-G is true of necessity. Then grounding is not, of necessity, well-founded. The problem then arises that in some worlds *nothing* might be fundamental. If, for instance, objects are identical to regions of space-time, then in worlds with gunky space-time in which G-DP is true, every grounding chain fails to be well-founded. If x is fundamental iff x is ungrounded, then in such worlds nothing is fundamental. The analogous worry arises if we suppose DP-G to be true of necessity and then focus on certain junky worlds. In what follows I suggest that there are ways around the problem if one accepts G-DP (and some other principles) that are not available if one accepts DP-G. Therefore, insofar as one thinks that one of G-DP or DP-G is true of necessity, one should think that it is G-DP that is true of necessity.

 Here is the argument. Start by making the following assumptions. (i) Uniform distributional properties are possible. (ii) Necessarily, the instantiation of heterogeneous distributional properties by some object is grounded in the instantiation, by that object, of uniform distributional properties. (ii) entails that if O instantiates a heterogeneous property over region R, then there is some compete decomposition of R into proper sub-regions, such that for each sub-region, r in that decomposition, O at r instantiates some uniform distributional property. To accept this is to accept that there are no worlds in which O’s instantiation of a heterogeneous distributional property fails to ‘bottom out’ in some distribution of uniform distributional properties. It cannot, as it were, be heterogeneous properties all the way down. (iii) Necessarily, the instantiation of a uniform distributional property over region R, by some object, is grounded in the instantiation, by that object, of *the* *very same* uniform distributional property over each of the sub-regions of R. I return to assumption (ii) and (iii) shortly.

Following Raven (2016) let’s say that [x] is fundamental iff x is *ineliminable*, where one way of being ineliminable is being ungrounded; another is (ineliminably) recurring in a chain of dependence. Since facts have constituents, we define what it is for a constituent in a fact to be bounded (or unbounded) in a fact, as follows (where c is a constituent of a fact, F, and G is a full ground of F).

BOUNDED c is bounded in F iff F contains c and for some full ground  of F, c is not a constituent of any fact, or any partial ground of any fact, in .

UNBOUNDED c is unbounded in F iff F contains c but c is not bounded in F.

A constituent, c, of a fact is then eliminable (or not) depending on whether it is unbounded in *some* fact containing it, or bounded in *every* fact containing it.

INELIMINABLE c is ineliminable iff c is unbounded in some F.

ELIMINABLE c is eliminable iff c is bounded in every F containing c.

If we accept (i)–(iii) we can resist the conclusion that in some worlds nothing is fundamental. If G-DP is true of necessity, then in any world with gunky space-time there will be non well-founded chains of ground. In such worlds, however, facts about the instantiation of heterogeneous properties will be grounded in facts about the instantiation of uniform properties. Moreover, facts about the instantiation of uniform properties will be ones in which some constituent—O’s instantiation of the uniform property—is unbounded in some fact. The fact that O instantiates uniform property U over R will be grounded in the facts that O instantiates U over each sub-region of R; each of these facts will, in turn, be grounded in O’s instantiating U over each sub-region of each sub-region of R, and so on. At each level in the chain, O’s instantiation of U will appear in each fact: O’s instantiation of U is ineliminable, and, therefore, fundamental. The appeal of this is that even where we have non well-founded chains, our explanation of why some fact obtains appears to terminate, rather than being infinitely deferred, by appealing to something that recurs at every level in the chain thereafter.

 Suppose, instead, one takes DP-G to be necessary. The analogous response will fail. Consider the set of junky worlds in which there is no [x] such that [x] is ungrounded. To offer an analogues response here, the assumptions we need are (i\*) possibly, there is an instantiation of a heterogeneous distributional property, HD, across region R, such that for any region, R\*, of which R is a proper sub-region, there is an instantiation of the same distributional property, HD, over R\*, and the instantiation of HD over R\* grounds the instantiation of HD over R and (ii\*) in any world containing junky space-time, there is an instantiation pattern like this. If (i\*) and (ii\*) are true, then in every non well-founded junky world, something is fundamental. For in such worlds the same heterogeneous property repeats itself, ineliminably, at each level of the grounding chain.

 (ii) and (iii) are controversial. Parsons (2004) rejects (ii), holding that possibly, there are no uniform properties. And one might reject (iii) even if one accepts (ii), since one might think that even if O instantiates some uniform property over R, it might fail to instantiate that same property over some proper sub-region of R. Nevertheless while (ii) and (iii) require some defence, they are, I think, defensible. By contrast, while (i\*) is plausible (ii\*) is not even defensible. There seems no reason at all to think that for *every* junky world, there is a pattern of instantiation such as that described. Indeed, it would be stupendously surprising if there were. That means that those who take G-DP to be true of necessity have a way of resisting the claim that in some worlds, nothing is fundamental, while those who take DP-G to be true of necessity, do not.

 So here is where we are. I have argued that we should hold that one of G-DP or DP-G is necessarily true, and, given this, that we should think that G-DP is necessarily true. It follows that in every non-presentist dynamist world TDPs are tensed, rather than tenseless, and therefore that TDP Present Record Truthmaking collapses into a version of Lucretian Truthmaking in all such worlds. Then the non-presentist dynamist is no better off than the presentist.

Even if the non-presentist dynamist embraces contingentism about DP-G and G-DP, though, she is hardly better off. For if DP-G and G-DP are contingent one would expect them to vary across modal space so that in some non-presentist dynamical worlds DP-G is true, and in others G-DP is true. Here is why. Suppose one thought that DP-G is contingent, but is true in all the non-presentist worlds. Then odd modal correlations obtain. Since DP-G is true in *all* the non-presentist worlds, it is true in both gunky and junky worlds: so G-DP and DP-G are modally independent from gunk or junk. But they are not modally independent from the nature of time. It’s hard to see what story about modal recombination one could offer to vindicate *that* pattern of modal co-variation. But if DP-G and G-DP do vary across the non-presentist dynamist worlds then the non-presentist dynamist is back to rejecting Truthmaker Consistency and conceding that in some non-presentist worlds TDP Present Record Truthmaking collapses into Lucretian Truthmaking. And for all we know, we are in just such a world. So that view is not better than the presentist’s.

**5. Conclusion**

On the assumption that the non-presentist dynamist wants to solve the epistemic challenge she must provide an account of truthmaking that is consistent with the Distinguishability Thesis. So she must reject Past Record. But in doing so she gives up any advantage she had, in the truthmaking stakes, over the presentist. For having done so, anything the non-presentist dynamist can do, vis-à-vis truthmaking, the presentist can do better (or at least, just as well).

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1. With thanks to Michael Duncan and James Norton for helpful discussion. [↑](#footnote-ref-2)
2. Those who reject dynamism might reject tensed propositions. Since this paper is targeted at dynamists and their commitments, supposing there are such propositions is harmless. [↑](#footnote-ref-3)
3. Lewis (1992, 2001 and Bigelow (1988) present (and endorse) this weak requirement as a rival to the more traditional truthmaker maximalist principle articulated by Armstrong according to which for any true proposition *P*, there exists at least one entity *E* that makes *P* true, an entity in virtue of which *P* is true (Armstrong 1997). [↑](#footnote-ref-4)
4. Tallant (2009) and Merricks (2007) defend this view. [↑](#footnote-ref-5)
5. See Sider (2001 p 40 and 2004 p 674) and Heathwood (2007 p 141) [↑](#footnote-ref-6)
6. See Cameron (2011). [↑](#footnote-ref-7)
7. Whether it was originally thought of as a challenge to knowledge is unclear: though the title of Braddon-Mitchell’s paper is how do we *know* it is now now, it is not clear that knowledge is the true target. [↑](#footnote-ref-8)
8. t\* will be in all of the blocks in a moving spotlight world and in some of them in a growing block world. [↑](#footnote-ref-9)
9. See Cameron (2015). [↑](#footnote-ref-10)
10. T is a candidate truthmaker; so T is just whatever kind of thing (fact, state of affairs, entity etc.) you take a truthmaker to be. I remain neutral on this. [↑](#footnote-ref-11)
11. Annie is a labradoodle. [↑](#footnote-ref-12)
12. If you think the only way for O to be extended is to have proper parts, then this is equivalent to: necessarily, if object O has distributional property DP, and DP is distributed across region R, then DP supervenes on the properties of those of O’s proper parts which occupy the proper sub-regions of R. [↑](#footnote-ref-13)
13. Where *D* is a complete decomposition of *R* iff every member of *D* is a sub-region of *R*, no members of *D* have any sub-regions in common, and every sub-region of *R* not in *D* has a sub-region in common with some member of *S*. [↑](#footnote-ref-14)
14. After all, if there is a sub-region r\*, of R, at which O fails to instantiate such a property, then the P is not, in fact, distributed over R, but is distributed over R-, the sub-region of R that overlaps all of R but r\*. [↑](#footnote-ref-15)