Presentism and distributional properties[*]

Jonathan Tallant & David Ingram--Draft

0.   INTRODUCTION

Presentism is the thesis that everything that exists, exists now. The view faces a familiar problem. Most are inclined to think that there are truths about the past. However, if the past does not exist, then what is it that *makes true* our talk about the past? To borrow from Armstrong:

> 'What truthmaker can be provided for the truth <Caesar existed>? The obvious truthmaker, at least, is Caesar himself. But to allow Caesar as a truthmaker seems to allow reality to the past, contrary to [presentism]' (2004: 146)[1]

There are a variety of suggested solutions to the "truth-maker problem". We focus upon a particular solution offered by Cameron (2011). Briefly, Cameron claims that the truth-makers for truths about the past are distributional properties, instantiated by present entities. Thus, to say of Barack Obama, <He was once a boy>, is true, because Barack Obama instantiates a distributional property, a part of which is *being-a-boy-at-t** (where *t** is earlier than the utterance). We argue that Cameron's proposed solution fails.

1.   DESIDERATA

The type of solution offered by Cameron is one that we call a "properties solution": one that involves the instantiation of properties by objects in order to do truth-making work. This type of solution is developed by Bigelow (1996) and termed "Lucretianism". Since Cameron's proposed solution is a variation on a Lucretian theme, we now outline Lucretianism and Cameron's adaptation.

1.1. Lucretianism

An adequate solution to the truth-maker problem must, according to Cameron, satisfy four conditions, which are: (1) presentism; (2) truth-maker theory (that truths about the past are made true by some existing element of our ontology); (3) realism about the past – simply, that there are (evidence-transcendent and objective) truths about the past; and, (4) we should not posit 'suspicious' properties,

[1] We follow the convention, as Armstrong does, that '<*p*>' denotes 'the proposition that *p*'.

where a property is suspicious iff it makes no difference to the present intrinsic nature of its bearer.[2] To illustrate how we might apply these conditions, consider the true proposition <Socrates existed>. The Lucretian claims that there is a property *being-such-as-to-have-contained-Socrates* and the state of affairs of the world instantiating it. This makes true <Socrates existed>. Thus, the world instantiates present, past-directed properties under Lucretianism, and these necessitate truths about the past. Lucretianism therefore satisfies each of (1)-(3). The Lucretian endorses (1) by affirming that only the present exists. Lucretians endorse (2): what makes true our talk about the past are present properties, and so the Lucretian can thereby satisfy (3): there are truths about the past. But the Lucretian property of *being-such-as-to-have-contained-Socrates* tells us nothing about the present intrinsic nature of the bearer, i.e. the world. According to Cameron, the property *being-such-as-to-have-contained-Socrates* makes no difference to the present intrinsic nature of its bearer. Lucretian properties are therefore suspicious, because they fall foul of condition (4), and should be rejected.

We are prepared to concede, here, that (4) is plausible enough. The Lucretian is not obviously compelled to agree. Indeed, so far as we can tell, nothing in Cameron's paper compels a Lucretian who does not feel the force of the "suspicion" intuition to concur with Cameron's rejection of Lucretianism.[3]

1.2. Distributional properties

Cameron attempts to adapt Parsons' (2004) *spatial* distributional properties (SDPs), an example of which is as follows. Consider an object, *O*, which is white with black polka-dots, and its corresponding property *being-polka-dotted*. This property tells us how *O* is across a region of space. *O* can be seen as both wholly white at places, and wholly black at others. While nothing can be both wholly white and wholly black, instantiating the SDP, *being-polka-dotted*, is enough to explain exactly how *O* is across the region of space it occupies.[4]

Cameron argues that, in the same way, the appropriate *temporal* distributional properties (TDPs) explain how objects are across time. We borrow a story from Cameron:

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[2] This is based on Cameron's view that a property is suspicious iff it fails to satisfy his principle of *Intrinsic Determination*: 'for all objects x and properties F and times t, if x instantiates F at t, then x has the intrinsic nature at t that it has partly *in virtue of* instantiating F at t' (2011: 61).

[3] The seriousness of this charge is discussed in Tallant (2009). *Our* preferred reason for rejecting Lucretianism is given by Sanson & Caplan (2010) and Merricks (2007: 136—137): what we might crudely call the "aboutness" objection.

[4] *Being-polka-dotted* is just one example of an SDP, a colour-distributional property. Other dialectically respectable SDPs include *being-hot-at-one-end-and-cold-at-the-other* (a heat-distributional property), *having-a-uniform-density-of-1kg/m³-throughout* (a density-distributional property), and so forth.

'Consider a simple world consisting of just one spatial dimension and one temporal dimension. There is one entity in this world – Flatty – who starts off his life at time *t* as a point, but who as time progresses grows continuously in one direction of the one spatial dimension he occupies. After the beginning of this life, then, he is no longer a point but a line; and at each moment he is a longer line than he has ever been previously. Exactly one year later, at *t**, Flatty tragically ceases to be, and the world is empty.' (2011: 63)

On this account Flatty is a point at *t* and a line at *t**.[5] Flatty's spatial dimensions are distributed a certain way *across a period of time*. Flatty is a point at one moment in time, and a line at others in virtue of instantiating the relevant TDP. However, the TDP alone does not give us enough to explain how Flatty is at a particular moment in time. In order to explain this, we must appeal to a further property, Flatty's age at the moment in question. Given this account, we can fix how Flatty *is*, *was*, and *will be*, by appealing to the TDP and Flatty's age.

TDPs and the age property both satisfy (4). A TDP is a single property, one that charts the nature of its bearer throughout the whole of history. At every moment, the TDP makes a contribution to the present intrinsic nature of its bearer, and so satisfies (4). The property of age also clearly makes a difference to how old the object is *now*, thereby also satisfying (4). Thus the union of TDPs and ages ground truths about how their bearers were, providing present truth-makers for truths about the past, and avoiding charges of "suspiciousness".

2.   TENSE VS. TENSELESS

Cameron's preferred understanding of the TDP is that it is *tenseless*. By this Cameron (2011: 67) seems to mean that the TDP is akin to *being-F-then-G-then-H*. Contrast this with a TDP that 'builds in' tense and is of the form *having-been-F-being-G-and-going-to-be-H*. As Cameron notes, if 'tense' were 'built into' the TDP, then which TDP were instantiated by an object would have to vary from moment to moment to reflect the fact that, given the passage of time, an object may change from *going to be F*, to *being F*, to *having been F*. Thus, an object, *O*, bearing a TDP would have to change from bearing the TDP *having-been-not-F-and-being-not-F-and-going-to-be-F*, to bearing the TDP *having-been-not-F-and-being-F-and-going-to-be-not-F*, and so on. By contrast, an object instantiating the TDP *being-F-then-G-then-H* does not need to change which TDP it instantiates, over time, to generate the appropriate truth-values. As we explained above, the 'tenseless' TDP and the property of age are sufficient to grounds the tensed truths.

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[5] It is more accurate to say that Flatty is a line at the moment immediately preceding *t**, because at *t** Flatty ceases to be. However, for simplicity, we will assume that it is true of Flatty that he was a line at *t**, and then ceases.

2.1. Changing TDPs

We think it possible that an object instantiating one of Cameron's (tenseless) TDPs could change over time, such that it instantiates different TDPs at different times and we also think that this is a problem for Cameron's view.[6] Suppose, to illustrate, that we have the following natural progression through time, where we allow that the underlined portions of the TDP are those that are 'now':

(A)   <u>The rose is red</u> and then the rose is dead[7]

This would most naturally be followed by:

(B)   The rose is red and then <u>the rose is dead</u>

The progression described would simply be one in which we move from one portion of the TDP—*the rose is red*—being present, to another portion of the TDP—*the rose is dead*—being present. So far, this all looks as it should.

But we maintain that the following sequence is possible. Begin as before:

(A)   <u>The rose is red</u> and then the rose is dead

And then suppose that this is followed by:

(B*)   The rose is green (not red) and then <u>the rose is dead</u>

This situation is one in which the property bearer—the rose—changes with respect to which TDP it instantiates; first one TDP is instantiated, and then another. This second TDP has a *different* first portion. We take it that this result would be undesirable.[8] The scenario described above is one in which <The rose is red> is true, but where it is never true, later than this, that <The rose was red>. After all, given (B*) what will be true about the past is that <The rose was green>. This, we think, is sufficient to motivate a rejection of Cameron's view.

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[6] Cameron (2011: 76—77) considers this problem as his 'Objection 5'.
[7] These TDPs are 'tenseless' in the way described.
[8] This problem is discussed for presentist ersatzism (e.g. Crisp (2007)) by Tallant (2010).

We have spoken, in the above, as if TDPs have 'portions' or 'parts'. Cameron does not licence such talk, claiming that such properties cannot be broken down into simple components. If TDPs cannot be broken down, then how can we say that TDPs with different parts can be instantiated at different times?

We are prepared to concede the point, but do not think it pressing to the aims of the paper. A moment ago, we described a sequence that involved a transition from (A) to (B*). We think it perfectly intelligible to think of the transition being generated by the *replacement* of one TDP (the TDP described in (A)) with another (the TDP described in (B*)). We therefore maintain that the objection stands. Talk of 'portions of TDPs', though useful, is not essential to the setting up of the problem.

2.2.   Cameron on change and the TDP

Cameron, in part, anticipates our objection:

> 'It makes no sense to speak of an object *changing* its distributional properties. Why? Because *what change is* on the account being offered is to instantiate (at each moment of your existence) a non-uniform distributional property. Being red at one time and then orange at some later time, for example, is to be analysed as instantiating (at all times) the distributional property *being red-then-orange*. To speak of an object changing its properties is a loose way of saying something about the distributional property it has that says how it is across time; it makes no sense to speak of an object gaining or losing the property that says how it is across time.' (2011: 77)

So far as we can tell, this contradicts Cameron's earlier treatment of age properties.

As we noted in 1.2, Cameron's solution requires the *union* of a (tenseless) TDP and the property of age. Clearly, the property of age that is instantiated by any given object must change over time. We do not now bear the same age-property that we bore five years, five minutes, or even five seconds ago. Thus, to 'speak of an object changing its properties' is *not merely* a loose way of saying something about the distributional property it has across time.

We present Cameron with the following dilemma: the property of age must be either a tenseless distributional property or some other kind of property. Suppose, taking the first horn, that the property of age is a tenseless distributional property. If that property is tenseless, then it will fail to reflect the fact that we are *now* one of those particular ages. Rather, the distributional property *simply exists*, describing how we are *at all times*. Suppose, to illustrate, that Cameron instantiates a TDP and a property of age. The TDP is of the form *being-a-boy-and-then-being-a-man-and-then-being-an-old-*

man. To simplify, we suppose that Cameron exists for only three instants, and that each clause of the TDP makes true our talk about a distinct instant.

We assume that a TDP age property would be *something like* the property of being *one-instant-old-then-two-instants-old-and-then-three-instants-old*. But we think it plain that this property, in conjunction with the TDP *being-a-boy-and-then-being-a-man-and-then-being-an-old-man*, does nothing to fix the *present* intrinsic nature of Cameron's person. The two properties simply serve to describe the whole lifespan of the person and are not sensitive to what is *now* the case. This is insufficient; nothing in either of the TDPs permits us to fix how the person is *now*. Since, as we explained above, this is essential to our fixing the truths about the past, so Cameron's view fails.

We now turn to the second horn: there is change that is not accounted for merely by the instantiation of a non-uniform TDP. If age *is* a property, e.g. the property *being one instant old*, but *is not* a distributional property, then change is *not merely a matter of something bearing a distributional property*. An object will have to change from *being-now-five-years-old* to *being-now-six-years-old*, for example; but this change will be due to an ever-changing, non-distributional property of age. Thus, *some change would not be accounted for by TDPs*.

If that is right, then Cameron loses the leverage to insist that an object cannot change with respect to which TDP it instantiates. Cameron's original line of resistance was that an object cannot change its TDPs because change *just is* the instantiation of distributional properties; to say that 'distributional properties may change' simply makes no sense. However, if a change in the property of age is *not* accounted for solely via the instantiation of a non-uniform TDP, then change does not consist solely in the instantiation of a non-uniform TDP. Clearly, it cannot then fail to make sense to say that 'things change in ways other than by instantiating a non-uniform distributional property'.[9] We therefore see no reason to deny that an object can change which TDP it instantiates, over time. If the idea is coherent and conceivable (and we think we have demonstrated that it is[10]) then we think it is possible.[11]

Nor can Cameron abandon the property of age. As Cameron has it:

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[9] Cameron might reply that it is only a change in an *object* that requires the instantiation of the TDP, and once again attempt to run his argument. We do not see that this will work: age, surely, is a property *of objects*.

[10] There is no obvious contradiction in the above representation of the change of TDPs over time. Recall, Cameron forced the contradiction by insisting that change was simply variation in the tenseless TDP. Since that is *not* the case, there is no longer any contradiction.

[11] Elsewhere, Cameron (2010: fn.14) makes it clear that he thinks possibility is the 'default mode'.

> 'Flatty couldn't have the particular distributional property and age that he has without being pointy at t and without being that length of line at t*, and it is *because* he instantiates this distributional property and age that he is pointy at t and that length of line at t*. And so the existence of the state of affairs of Flatty instantiating this distributional property and age at t* necessitates that Flatty was pointy at t, and can suffice as a truthmaker for that truth about the past.' (2011: 65)

We share the thought that although TDPs themselves are sufficient for all of the tenseless truths, about (e.g.) Flatty, it is only when the TDP is conjoined with the property of Flatty's age that we generate the claim that Flatty is *now*, and *was* and *will be*, any particular way. Since the tensed truths about the past and the future were the primary target for grounding, we cannot do very well *without* the property of age on the tenseless account of TDPS. Thus, denying the existence of the property of age, whilst preserving tenseless distributional properties, does not seem viable.

So, instead of denying that there exists an age property, can Cameron claim that age properties are special; that they are the one property for which change is not a matter of instantiating a TDP? He might be able to deny that such a move would be *ad hoc*. After all, the age property is basically a surrogate for the 'now' of a moving spotlighter.[12]

We agree that Cameron could take such a position, but we are less certain as to how this will solve the problem. Cameron's original view was that change just *is* variation in the TDP. This permitted him to argue that it would make no sense to say that objects undergo changes in which TDPs they exemplify. If Cameron then allows that there can be change that is not due to simply having a single change-implying TDP throughout one's career, then this line of argument cannot be mounted. Once Cameron concedes that there is a type of change that requires the gaining and loss of a particular property—the property of age—it becomes unclear why it makes no sense to describe objects as changing with respect to which TDP they exemplify. If objects can gain and lose age properties we see no reason that they not also gain and lose TDPs.

Cameron might then choose to try and deny that it's possible for objects to change with respect to which TDPs they exemplify, but we do not think Cameron should take this line. We take the view that possibility is the default and that if Cameron wishes to take the view that some element of our ontology is *necessarily* unchanging in some regard, then this generates particular dialectical requirements. Namely, Cameron must explain why objects *cannot* gain or lose TDPs.

To see the explanatory burden more clearly, we think it is worth considering the claim that objects cannot change with respect to which TDPs they exemplify, in light of claims typically made about

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[12] We owe this objection to Karen Bennett.

concreta and *abstracta*. We naturally think of *concreta* as capable of undergoing change. Were we to claim of any concrete object that it is *impossible* for it to undergo any change, then we think some explanation must be forthcoming as to why this is the case. For example, were Cameron to tell us that there was a concrete object that instantiates the property 'being green' and, of necessity, cannot change lose this property and/or gain another colour property, despite the fact that this object *can* gain and lose other properties, we should want some explanation of why this is the case. It would not do to simply *assert* that this how things are. Nor, then, should Cameron merely assert that an object cannot change which TDP it exemplifies, whilst simultaneously allowing that an object *can* change which age property it exemplifies.

Now consider *abstracta*; putative examples of which include numbers, sets, and propositions. These entities are often thought to be necessarily unchanging. Certainly, we do not think that '2' can undergo any change in its properties over time. However, the contrast between objects bearing TDPs and *abstracta* is marked. *Abstracta* are usually thought to exist 'outside' time, in some sense or other. Indeed, they lack any location *in* time. That *abstracta* lack temporal location renders them unchanging. Because *abstracta* do not reside at any point along the temporal dimension, we have an explanation of why it is that they cannot change their properties over time. Some similar explanation is required if we are to endorse Cameron's position, but it is hard to see how the appeal to abstract can help Cameron here. For, as already noted, the bearers of TDPs, unlike abstract objects, have a location in time. As a consequence of these arguments we think that Cameron's view should be rejected.

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