Characterising theories of time and modality

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Recently, some authors – call them *Reformists* – have argued that the traditional Presentism-Eternalism and Actualism-Possibilism debates in the metaphysics of time and modality respectively are unclear or insubstantial, and should therefore give way to the newer Temporaryism-Permanentism and Contingentism-Necessitism debates. In 'On characterising the presentism/eternalism and actualism/possibilism debates' (2016, *Analytic Philosophy* 57: 110-140), Ross Cameron defends the *Conservative* position that the traditional debates are both substantial and distinct from the Temporaryism-Permanentism and Contingentism-Necessitism debates. In this paper I provide a Reformist response to Cameron's arguments.

1. *Introduction*

Presentism in the metaphysics of time is standardly defined as the thesis that – quantifying unrestrictedly – *everything is present*:

> PRESENTISM: $\forall x \, \text{Present}(x)$
> (Informally: Everything is present)

For example, here is Meyer (2005):

> Presentism, we are told by its advocates, is the following thesis about the relation between time and existence:
> P: Nothing exists that is not present

Presentism is typically set in opposition to *Eternalism*, the thesis that there are non-present past and future things such as dinosaur roars and Martian presidential inaugurations.

The Presentism-Eternalism debate has an analogue in the metaphysics of modality. *Actualism* in the metaphysics of modality is standardly defined as the thesis that – quantifying unrestrictedly – *everything is actual*:

ACTUALISM: $\forall x$ Actual(x)
(Informally: Everything is actual)

For example, here is Menzel (2014):

> Actualism is the philosophical position that everything there is – everything that can in any sense be said to be – *exists*, or is *actual*.

Actualism is typically set in opposition to *Possibilism*, the thesis that there are non-actual possible things such as blue donkeys and solid gold spheres with ten-metre radii.

Recently, some authors have expressed doubts about the substance of the traditional Presentism-Eternalism and Actualism-Possibilism debates, and in particular, about the substance of the predicates 'is present' and 'is actual' as they appear in the standard definitions of Presentism and Actualism.[1] They suspect that there are no substantive answers to the questions: 'What exactly is it that, according to Presentism, absolutely everything *is*?' 'What exactly is it that, according to Actualism, absolutely everything *is*?' For example, Williamson (2013, 22-5) makes the case against the traditional debates by considering and rejecting a number of candidate interpretations of the standard definitions of Presentism and Actualism.[2] Deasy (2017) describes and rejects further candidate interpretations of the standard definition of Presentism. However, the case made by Williamson and Deasy is not entirely negative: they agree that the Presentism-Eternalism debate should give way to the Temporaryism-Permanentism debate, and the Actualism-Possibilism debate should give way to the Contingentism-Necessitism debate.[3] *Temporaryism* in this context is the view that sometimes, there are temporary existents

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[1] There is a distinct doubt about the substance of the traditional Presentism-Eternalism debate centred on the question of whether the copula 'is' in the standard definition of Presentism should be read as 'tensed' or 'tenseless' – see e.g. Crisp (2004), Ludlow (2004a, 2004b), Meyer (2005), Sakon (2016) and Deasy (forthcoming in *Synthese*). This is not the worry about the traditional debate that I have in mind here.
[2] Correia and Rosenkrantz (2016, 19-21) endorse Williamson's case against the standard definition of Presentism.
[3] Note that whilst Williamson (2013) argues that the labels 'Presentism' and 'Actualism' are 'badly confused' and should therefore be abandoned, Deasy (2017) argues that given that self-described Presentists are inevitably Temporaryists (or more specifically *Transientists*, according to whom things both begin and cease to exist over time – see §3 below) and self-described Actualists are inevitably Contingentists, Presentism should be identified with Transientism and Actualism should be identified with Contingentism. See Sakon (2016) for a very similar proposal (although in that case, motivated by the 'triviality objecton' to Presentism – see fn. 1 above).

('S' represents the standard tense operator 'It is sometimes the case that'):

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> TEMPORARYISM: $S \exists x \, S\neg \exists y \, y=x$
> (Informally: Sometimes, something is sometimes nothing)

Those who reject Temporaryism are *Permanentists* ('A' represents the standard tense operator 'It is always the case that'):

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> PERMANENTISM: $A \forall x \, A \exists y \, y=x$
> (Informally: Always, everything is always something)

Similarly, *Contingentism* is the thesis that possibly, there are contingent existents ('◊' represents the standard modal operator 'It is metaphysically possible that'):

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> CONTINGENTISM: $\Diamond \exists x \, \Diamond\neg \exists y \, y=x$
> (Informally: Possibly, something is possibly nothing)

Those who reject Contingentism are *Necessitists* ('□' represents the standard modal operator 'It is metaphysically necessary that'):

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> NECESSITISM: $\Box \forall x \Box \exists y \, y=x$
> (Informally: Necessarily, everything is necessarily something)

Williamson and Deasy argue that the traditional Presentism-Eternalism and Actualism-Possibilism debates are unclear, and should therefore give way to the Temporaryism-Permanentism and Contingentism-Necessitism debates. Call this view *Reformism*. In 'On characterising the presentism/eternalism and actualism/possibilism debates' (2016), Ross Cameron makes the case for *Conservatism*, the view that the traditional debates are both substantive and distinct from the Temporaryism-Permanentism and Contingentism-Necessitism debates. Cameron's case for Conservatism has two key elements: first, an argument that there are important differences between theories of time/modality that are best explained by appeal to the traditional Presentism-Eternalism/Actualism-Possibilism

distinction; and second, a positive proposal concerning the content of the theses of Presentism and Actualism.

In what follows I provide a Reformist response to Cameron's arguments. First (§2), focusing on the modal case, I argue that although Cameron is right that there are important differences between theories of modality that the Contingentism-Necessitism distinction fails to capture, the best way to capture these differences is not in terms of the traditional Actualism-Possibilism distinction. Second (§3), focusing on the temporal case, I show that Cameron's proposed interpretations of Presentism and Eternalism mistakenly count certain Presentist theories as non-Presentist (or vice versa). Finally, (§4) I argue that Cameron's view that the content of the Presentism-Eternalism and Actualism-Possibilism debates actually depends on one's antecedent theoretical commitments provides support for the Reformist position.

2. *Necessitism and Possibilism*

Cameron (2016, §§1-2) opens his defence of the independent substance of the traditional Presentism-Eternalism and Actualism-Possibilism debates by arguing that there are important differences between theories of time/modality that are best explained by appeal to the traditional Presentism-Eternalism/Actualism-Possibilism distinction. In particular, he argues that there are distinctively *Presentist* and *Eternalist* varieties of Permanentism (§1), and distinctively *Actualist* and *Possibilist* varieties of Necessitism (§2). If Cameron is right, we have a good reason to think that contrary to the Reformist view, the traditional Presentism-Eternalism/Actualism-Possibilism distinction marks an important difference between theories of time/modality – a difference which cross-cuts the Temporaryism-Permanentism/Contingentism-Necessitism distinction. In this section, I assess Cameron's argument. For the sake of brevity, I focus on the modal argument – however, it should be clear that analogous points can be made in relation to the temporal argument.

Cameron's argument focuses on two well-known theories in modal metaphysics: Lewis's (1986) 'modal realism' (*LMR* from now on) and Williamson's (2002, 2013) version of Necessitism (*WN* from now on). As Cameron (2016, 114) points out, both theories are Necessitist in the sense defined above.[4] However, according to Cameron the theories are Necessitist *in different ways* – and the best explanation for this difference is that LMR is a Possibilist theory,

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[4] This might not be quite so obvious in the case of LMR. However, see Williamson (2013, 16-17) for an argument that LMR implies Necessitism.

whereas WN is an Actualist theory.[5] Cameron (2016, 116) concludes that 'Necessitism cannot be what is at issue between the actualist and the possibilist, for they each can accept it'.

We begin with Cameron's argument that LMR and WN are Necessitist in different ways. Cameron (2016, 115-6) writes:

> For a possibilist like Lewis, it's not the case that everything is at every world – according to him, I might not have existed – but, because the unrestricted quantifier looks out beyond a world to include the things that exist at *every* world, unrestricted existence is non-contingent. For Williamson, by contrast, it *is* the case that everything is at every world – according to him, it is not true that I might not have existed – and so the quantifier need never look beyond the domain of the world in question for it to be true that were that world actual, everything that could exist would exist, and hence existence is non-contingent.

And similarly (Cameron 2016, 124):

> To be a possibilist, one has to be a necessitist because what there is includes what is in merely possible worlds, and not because what there is is what there actually is, but the actual ontology is the same as the ontology of any other possible world.

According to Cameron, the different ways in which LMR and WN are Necessitist can be captured by the fact that WN but not LMR implies the truth of the sentence

(1) Everything is in every possible world[6]

The idea is that the fact that WN but not LMR implies (1) shows that for the Williamsonian, Necessitism is true because every possible world has exactly the same inhabitants, whereas for the Lewisian, Necessitism is true because the unrestricted universal quantifier ranges over the inhabitants of every possible world (i.e. of the Pluriverse).

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[5] It is clear that Cameron takes WN to be a form of Actualism. For example, he writes (2016, n.3): 'Once we settle on a consistent terminology, Williamson's view is exactly analogous to that of the presentist permanentist from the previous section' – i.e., Williamson's theory is Actualist and Necessitist. See also ibid. p.128, n.34.
[6] Whereas Cameron talks of things being *at* worlds, I talk of things being *in* worlds. This is merely a stylistic difference.

This is a puzzling argument, for a few reasons. For one thing, the unrestricted universal quantifier functions in exactly the same way whether one is a Lewisian or a Williamsonian: it means 'everything without exception'.[7] Therefore there is no sense in which the quantifier fails to '[look] out beyond a world to include the things that exist at every world' given WN. Moreover, it is odd to characterise the Williamsonian acceptance of Necessitism in terms of possible worlds and their inhabitants, given Williamson's explicit commitment to the explanatory priority of directly modal notions.[8] For the Williamsonian, Necessitism is true because it is impossible for there to be something that could be nothing – any explanation of Necessitism in terms of possible worlds and their inhabitants is inevitably explanatorily posterior.

The main problem with Cameron's claim, however, is that it relies on an equivocation concerning the notion of *being in a possible world* – and if we disambiguate, we see that there is in fact no disagreement between LMR and WN concerning the truth of (1).

There are two natural ways of understanding an expression of the form 'x is in possible world w': either as equivalent to 'x is located in w' or as equivalent to 'in w, x exists'. Each of these readings generates a different interpretation of (1) (where 'L(x,y)' means 'x is located in y'):

(2) $\forall x \forall w\, L(x,w)$
(Informally: Everything is located in every possible world)

(3) $\forall x \forall w$ in w($\exists y\, y=x$)
(Informally: Everything is such that, in any possible world, it exists)

Start with (2). The Lewisian and the Williamsonian agree that it is not the case that everything is located in every world, and therefore that (2) is false. For example, they agree that there are worlds in which I am not located. Of course, unlike Lewis's theory, Williamson's theory is not modally reductionist, and so it isn't a particularly natural setting for talk about the inhabitants of possible worlds. But let us imagine a Williamsonian who is happy to talk this way. What are *possible worlds* according to such a Williamsonian, and what is it for something to be *located in* one of them? The natural story for the Williamsonian is that possible worlds are *world-propositions*: maximal, consistent, possibly-

[7] See Williamson (2003) for some relevant discussion.
[8] See especially Williamson (2013, §8.4).

true propositions.[9] In that case, a natural Williamsonian story about what it is for some x to be located in a world w is that w implies that x is *concrete* (where 'Cx' means 'x is concrete'):[10]

> LOCATION (WN): $\forall x \forall w(L(x,w) := (w \supset Cx))$[11]
> (Informally: For some x to be located in some world w is just for w to imply that x is concrete)

For example, given that I could have been non-concrete, there is a possible world w – i.e. a world-proposition – which implies that I am non-concrete, and therefore a world w in which I am not located. More generally, given the above Williamsonian analyses of 'possible world' and 'is located in w', the Lewisian and the Williamsonian can agree on the pattern of instantiation of the modal location relation. And this is just what we should expect: for although the Williamsonian eschews the reductive analysis of modal notions in terms of maximal, interrelated spatiotemporal systems and their concrete inhabitants, she will naturally want to provide some content to talk of things being located in possible worlds, given that she has the theoretical resources to do so – and she will have no desire to say non-standard things about the pattern of instantiation of the modal location relation.[12]

Now consider (3):

> (3) $\forall x \forall w$ in w($\exists y \ y=x$)
> (Informally: Everything is such that, in any possible world, it exists)

In this case, the notion of something's *existing in a world* is interpreted using the modal operator 'In (possible world) w'. The Lewisian and the Williamsonian will agree that everything is in every world in this

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[9] As Cameron (2016, 6, fn.5) points out. See Fine (1977) for a well-known development of this strategy.

[10] See Williamson (2013, 6-7) on the contingency of concreteness. It is important to remember that 'is concrete' is a term of art for the Williamsonian, to be put to whatever theoretical use is required. Therefore, one shouldn't worry too much about questions such as e.g. whether some inhabitants of Lewis-worlds are not concrete.

[11] In what follows ':=' indicates the giving of an analysis.

[12] Of course, one can imagine strange versions of WN and LMR that *accept* (2). The strange version of LMR would be one according to which every concrete possible world has exactly the same inhabitants – and therefore, for example, every world overlaps on *me*. The strange version of WN would be one according to which necessarily, everything is necessarily concrete. These theories resemble the two versions of Permanentism that Cameron (2016, 112-4) describes, namely, 'Democritean eternalism' and 'Democritean presentism' respectively.

sense, and therefore that (3) is true. In particular, there are good reasons for the Lewisian to treat the modal operators as redundant when the quantifiers in their scope are unrestricted (as Lewis 1986, 16 and Williamson 2013, 16-17 point out).[13] It follows that for the Lewisian, (3) is equivalent to the logical truth that everything is something ($\forall x \exists y \ y=x$). For the modally non-reductionist Williamsonian, on the other hand, the operator 'in w' can be understood in terms of the analysis:

IN-W (WN): In w, $\phi := \Box(\text{Actual}(w) \supset \phi)$
(Informally: For it to be the case that in possible world w, ϕ is for it to be the case that necessarily, if w is actual then ϕ)

In that case, (3) is equivalent to the claim that for any x and any possible world w, necessarily, if w is actual then x exists (formally: $\forall x \forall w \ \Box(\text{Actual}(w) \supset \exists y \ y=x)$), which is of course true given WN.

Perhaps there is still a way to make sense of the idea that WN and LMR are Necessitist in different ways – in fact, we have just seen how the explanation might go. Take the following 'world-theoretic' statement of Necessitism, which is simply the necessitation of (3):

NECESSITISM*: $\forall w$ in $w(\forall x \forall w'$ in $w'(\exists y \ y=x))$
(Informally: Everything in every world exists in every world)

As mentioned above, there are good reasons for the Lewisian to treat the modal operators as redundant when the quantifiers within their scope are unrestricted. Hence for the Lewisian, Necessitism* is plausibly equivalent to the logical truth that everything is something (formally: $\forall x \exists y \ y=x$). On the other hand for the Williamsonian who identifies possible worlds with world-propositions, Necessitism* is equivalent to the substantive claim that every world is such that necessarily, if it is actual then for any x and any world w, necessarily, if w is actual then something is x (formally: $\forall w \ \Box(\text{Actual}(w) \supset \forall x \forall w' \ \Box(\text{Actual}(w') \supset \exists y \ y=x))$). And it might be argued that these are two different ways of 'grounding' the truth of Necessitism*.

The important question from a Reformist perspective is whether the best explanation for this difference between LMR and WN is that LMR is a Possibilist theory and WN is an Actualist theory. I don't think it is. In fact, the best explanation for this difference is that

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[13] Cameron (2016, 5, fn.4) endorses this interpretation of Lewis's theory.

LMR implies *Modal Reductionism* and WN implies *Modal Primitivism*. Modal Reductionism is the conjunction of *Propositional Necessitism* and *Anti-modalism*:[14]

PROPOSITIONAL NECESSITISM: $\forall p\; p \supset \Box p$
(Informally: Every proposition is if true then necessarily true)

ANTI-MODALISM: There are no metaphysically fundamental modal operators

Modal Primitivism is the conjunction of *Propositional Contingentism* and *Modalism*:

PROPOSITIONAL CONTINGENTISM: $\exists p\; p \land \Diamond \neg p$
(Informally: Some propositions are contingently true)

MODALISM: There are metaphysically fundamental modal operators

That LMR implies Modal Reductionism and WN implies Modal Primitivism marks a very important difference between the Lewisian and Williamsonian views. At the heart of Lewis's project is the reduction of the modal to the non-modal: the package of Propositional Necessitism and Anti-modalism reflects that. In contrast, Williamson rejects Lewis's modal reductionist programme in favour of the view of contingency as 'radical contingency': the package of Propositional Contingentism and Modalism reflects that. There does not seem to be any good reason to evoke theses associated with the names 'Actualism' and 'Possibilism' in order to capture this difference between their theories.

     I have argued that the difference between LMR and WN with respect to how they 'ground' the truth of Necessitism* is best explained by the fact that LMR implies the Modal Reductionist package of Propositional Necessitism and Anti-modalism, and WN implies the Modal Primitivist package of Propositional Contingentism and Modalism. But doesn't this leave something out? Isn't there something to the idea that LMR implies Necessitism because *as a*

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[14] Lewis might not have put things like this, but I believe it is an accurate characterisation of his view. See e.g. Williamson (2014) for a clear characterisation of Lewis's theory as implying Propositional Necessitism.

Possibilist, Lewis holds that what there is – unrestrictedly – includes the inhabitants of other concrete possible worlds, whereas in contrast, WN implies Necessitism because *as an Actualist*, Williamson holds that what there is – unrestrictedly – is necessary? Here is Cameron (2016, 124):

> The possibilist will be a necessitist because she thinks that what there unrestrictedly is necessarily includes what there could be, but the actualist who thinks that what there is unrestrictedly is limited to what there actually is can still be a necessitist if she thinks that existence is non-contingent.

According to the above, a 'Possibilist' like Lewis accepts Necessitism on the grounds that 'what there unrestrictedly is necessarily includes what there could be', whereas an 'Actualist' like Williamson accepts Necessitism on the grounds that 'existence is non-contingent'. But why would a Williamsonian deny that 'what there unrestrictedly is necessarily includes what there could be'? Given Necessitism, what there is (unrestrictedly) necessarily includes everything that could be – what there is (unrestrictedly) couldn't fail to include some merely possible thing, as given Necessitism *there couldn't be* any merely possible things. (And if we read the sentence 'what there unrestrictedly is necessarily includes what there could be' as equivalent to 'everything in every world exists in every world', we simply return to the above point that the Williamsonian and Lewisian both reject (2) and accept (3).)

Similarly, why would a Lewisian deny that 'existence is non-contingent'? As we saw above, for the Lewisian, the fact that existence is necessary is a straightforward consequence of the logical truth that everything is something. Of course, it may be true that there is a difference between LMR and WN when it comes to the 'grounds' of sentences like 'What there is (unrestrictedly) includes what is located in other possible worlds' and 'Everything exists of necessity' – but as we have already seen, this difference is best explained by the fact that as a Modal Reductionist, Lewis holds that the modal operators are redundant when the quantifiers within their scope are unrestricted, whereas as a Modal Primitivist, Williamson identifies possible worlds with modally non-reductive world-propositions. Again, it is the fact that WN implies Propositional Contingentism and Modalism whereas LMR implies Propositional Necessitism and Anti-modalism that best explains the difference between the theories. There is no good reason to invoke theses associated with the names 'Actualism' and 'Possibilism' in order to explain the difference.

3. *The Positive Proposal*

We now turn to consider Cameron's positive proposal. (For the sake of brevity, I focus on Cameron's proposed interpretations of Presentism and Eternalism.) According to Cameron, Presentism should be interpreted as the thesis that *everything is if located at any time located at the present time*, and Eternalism should be interpreted as the thesis that *there are things located at past, present and future times*:[15]

PRESENTISM (RC): $\forall x(\exists t(L(x,t) \supset Present(t)))$
(Informally: Anything located at a time is located at the present time)

ETERNALISM (RC): $\exists x \exists t (Past(t) \wedge L(x,t)) \wedge \exists x \exists t (Present(t) \wedge L(x,t)) \wedge \exists x \exists t (Future(t) \wedge L(x,t))$
(Informally: There are things located at past, present and future times)

Note that on Cameron's interpretation, Presentism remains a first-order universally-quantified claim. Call this sort of Conservatism *Strict Conservatism*. Other Strict Conservatives include, for example, Crisp (2007, 102-3), who defends the view that 'x is present' in the standard definition of Presentism should be read as equivalent to 'for all y, x has no temporal distance from y'. In that case the standard definition is equivalent to (where 'D(x,y)' means 'there is a temporal distance between x and y'):[16]

PRESENTISM (TC): $\forall x \ \forall y \ \neg D(x,y)$
(Informally: Nothing is at any temporal distance from anything else)

Similarly, Correia and Rosenkrantz (2016) defend the view that 'x is present' in the standard definition of Presentism should be read as equivalent to 'there is an instantaneous time t and if x is ever located at a time, x is located at t'. In that case the standard definition is

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[15] Viebahn (forthcoming in *Synthese*) defends similar interpretations of the standard definitions.
[16] See Tallant (2014, §2.3) and Deasy (2017, 389) for objections to Crisp's proposal.

equivalent to (where 'I(t)' means 't is instantaneous' and 'L(x,y)' means 'x is located at y'):

> PRESENTISM (C&R): $\forall x(\exists t(I(t) \wedge (S \exists t'L(x,t')) \supset L(x,t)))$
> (Informally: There is an instantaneous time such that anything ever located at a time is located at it)

In contrast, some Conservatives – call them *Liberal Conservatives* – reject the Strict Conservative view that the traditional Presentism-Eternalism debate is about the truth of a certain first-order universally quantified claim, and instead provide more revisionary interpretations of the standard definitions. For example, Stoneham (2009, 212) argues that Presentism should be understood as the thesis that every true proposition has a 'truthmaker' *now* (where 'N' represents the tense operator 'It is now the case that' and '<p>' is read 'the proposition that p'):[17]

> PRESENTISM (TS): $\forall p(p \supset N(\exists x \square(<\exists y \; y=x> \supset p)))$
> (Informally: For any proposition p, if p is true there is now some x such that the proposition that x exists strictly implies p)

Similarly, taking his cue from Merricks (2007), Tallant (2014) argues that Presentism should be understood as the second-order identity claim that presence is existence:

> PRESENTISM (JT): Presence = existence[18]

Unfortunately, space does not permit an assessment of each of these strategies here (our focus here is on Cameron's proposal). However, it is worth mentioning that even from a Reformist perspective, there is a great deal of merit in the Conservative project. In particular, Tallant's (2014) and Cameron's (2016) proposed interpretations of Presentism are both philosophically interesting and seem to cross-cut the Permanentism-Temporaryism debate. It is certainly worth thinking about why one would accept or reject either of these theses, and about how they relate to questions concerning ontological and qualitative change over time. On the other hand, it seems to me that none of the

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[17] See Tallant (2014) for objections to Stoneham's proposal.
[18] See Sakon (2016, 1094-6) for some objections to Tallant's proposal.

above proposals really succeeds in capturing what is supposed to be at stake in the traditional Presentism-Eternalism debate. In what follows, I provide some evidence for this claim with respect to Cameron's proposal by showing how Cameron's interpretations of Presentism and Eternalism mistakenly count certain Presentist theories as non-Presentist (or vice versa).

An obvious objection to Cameron's proposal is that Presentism is simply not about where things are located in time. For example, here is Merricks (2007, 124):

> Consider a view that starts off with the eternalist's picture of time and existence at a time, and then 'shaves off' the past and future, leaving only a thin (instantaneous?) slice called 'the present'. This view agrees with eternalism that existing at a time—any time, past, present, or future—is like being located at a place. But, unlike eternalism, this view says that while objects exist at the present time, they exist at no other times, since there are no other times at which to be located… I can see why some might think this view is presentism. They think that this view is presentism because they (wrongly) ascribe to presentists the eternalist's claim that to exist at a time is to be located at some super-thin slice of being. But presentists should no more accept this than the non-Lewisian should accept that to possibly exist is to be located in some universe.

I don't think Cameron should be too concerned by this sort of objection. The problem with the traditional Presentism-Eternalism debate – as Cameron (2016, 110) rightly points out – is that it is unclear what it is to be present in the sense of the standard definition of Presentism. In that sense, it is unclear what Presentism is about. Therefore, we should be slow to reject a proposed interpretation of Presentism on the grounds that it is not true to the spirit of Presentism, as there is no precise Presentist view to whose spirit we can fail to be true.

Of course, that does not mean that anything goes when it comes to interpreting the content of the traditional Presentism-Eternalism debate. For example, Presentism is not the view that there are (quantifying unrestrictedly) no dinosaurs.[19] Why not? After all, most self-described 'Presentists' accept that there are (quantifying unrestrictedly) no dinosaurs (although of course there *were*), and most self-described 'Eternalists' hold that there are (quantifying unrestrictedly) dinosaurs (located in the relative past).[20] One good reason to reject this interpretation is that it mistakenly counts a theory according to which (i) reality contains a four-dimensional spacetime manifold; (ii) no time is metaphysically special in virtue of being the present; and (iii) there are (quantifying unrestrictedly) no dinosaurs as

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[19] By 'dinosaur' here I mean *non-avian dinosaur*.
[20] See e.g. Sider (2006, 77-8).

a version of Presentism.[21] But *why* is it a mistake to count such a theory as a version of Presentism? One good reason is that most self-described 'Presentists' would not count the relevant theory as a version of Presentism, but as a version of Eternalism. Another is that the relevant theory (let us suppose) implies characteristically 'Eternalist' theses such as *Temporal Parity*, *Permanentism*, *Propositional Eternalism* and *Anti-temporalism*:

TEMPORAL PARITY: There is nothing metaphysically special about the present time in virtue of which it is present

ANTI-TEMPORALISM: There are no metaphysically fundamental tense operators (such as 'It is always the case that' ('A') and 'It is sometimes the case that ('S'))

PERMANENTISM: $A \forall x\, A \exists y\, y=x$
(Informally: Always, everything always exists)

PROPOSITIONAL ETERNALISM: $\forall p\, p \supset Ap$
(Informally: Every proposition is if true always true)

Of course, a committed defender of the view that Presentism is the thesis that there are (quantifying unrestrictedly) no dinosaurs could respond to both of these points: they could argue that most self-described 'Presentists' are mistaken about the implications of their view, and that the Presentism-Eternalism debate cross-cuts debates about the truth of theses like Four-dimensionalism, Temporal Parity, Permanentism, and Propositional Eternalism. But all this really shows is that if a certain interpretation of Presentism mistakenly counts a Presentist theory as non-Presentist (or vice versa), we have a *defeasible* reason for rejecting that interpretation.

The question is, does Cameron's proposal mistakenly count any Presentist theories as non-Presentist (or vice versa)? Let us begin with a relatively easy case for Cameron. Consider a theory – call it *Intervalism* – according to which reality contains a short, ever-changing interval of time – a very recent past interval, a present time, and a very near-future interval. Given Cameron's proposal, Intervalism implies Eternalism: according to Intervalism there are

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[21] Say that according to this theory, Earth was created by God 6,000 years ago with a complete fossil 'record'.

things (such as the author of this paper) located at past, present and future times. However, it seems plausible that many of those engaged in the traditional Presentism-Eternalism debate would count Intervalism as a (strange) kind of Presentism rather than a version of Eternalism. After all, Intervalism (let us suppose) implies characteristically 'Presentist' theses such as *Temporalism*, *Transientism* and *Propositional Temporalism*:[22]

> TEMPORALISM: There are metaphysically fundamental tense operators (such as 'It is always the case that' ('A') and 'It is sometimes the case that ('S'))

> TRANSIENTISM: $S \exists x \, P(\neg \exists y \, y=x) \land S \exists x \, F(\neg \exists y \, y=x)$
> (Informally: Sometimes, there is something that was nothing, and sometimes, there is something that will be nothing)

> PROPOSITIONAL TEMPORALISM: $\exists p \, Sp \land S\neg p$
> (Informally: Some proposition is sometimes true and sometimes false)

Cameron could respond here by arguing that it is no surprise that when the heretofore relatively fuzzy boundaries of Presentism and Eternalism are made more precise, our initial judgements about non-standard theories such as Intervalism might require revision. However, there are harder cases for Cameron's proposal. For example, consider the standard 'Presentist' theory defended by e.g. Bigelow (1996), Prior (1970) and Zimmerman (1996), but supplemented with the thesis that times are *time-propositions*: maximal, consistent, sometimes-true propositions. Call this theory *Presentism+*[23]. Presentism+ is not a non-standard theory: it is a key player on the field. Moreover, there is no doubt that those who use the labels 'Presentism' and 'Eternalism' would count it as a Presentist theory. However, notice that on Cameron's proposal, Presentism+ is an Eternalist theory. According to Presentism+, for some x to be located at a time t is for t to imply that x is concrete:

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[22] It is a fact according to Intervalism that there *were* dinosaurs, but this cannot be reduced to some fact about there being dinosaurs located at some earlier hyperplane (Temporalism); and the fact there were dinosaurs was not always true (Propositional Temporalism). Moreover, it is false according to Intervalism that I am always something: rather, I was nothing and I will be nothing (Transientism).
[23] Bourne (2006), Crisp (2007) and Markosian (2004) defend Presentism+.

LOCATION (P+): $\forall x \forall t(L(x,t) := (t \supset C(x)))$
(Informally: For some x to be located at a time t is just for t to imply that x is concrete)

For example, given that some time t – i.e. some formerly-true time-proposition – implies that Xanthippe is concrete, it follows that Xanthippe is located at t. More generally, it follows given Presentism+ that there are things located at past and future times as well as at the present time, and therefore that Eternalism (on Cameron's definition) is true.

A natural way for Cameron to avoid this problem is to specify that the location relation mentioned in his definitions of Presentism and Eternalism must be a *fundamental* relation. In that case, on Cameron's definitions Presentism+ is a Presentist theory: given Presentism+, nothing bears the fundamental location relation to a time (i.e. a time-proposition), so it is true that if anything bears the fundamental location relation to a time, it bears the fundamental location relation to the present time. But this creates a further problem for Cameron's proposal. Consider a theory – call it *4D Spacetime Monism* – that combines *Four-dimensionalism* and *Spacetime Monism*:

FOUR-DIMENSIONALISM: Reality contains a four-dimensional spacetime manifold in which all (relatively) past, present and future events and objects are permanently located

SPACETIME MONISM: All objects and events are identical with regions of spacetime

Four-dimensionalism is the theory of fundamental temporal reality associated with the Special Theory of Relativity and defended by *B-theorists* such as Sider (2001) and Skow (2015).[24] Spacetime Monism is a thesis concerning the relation between spacetime and its occupants defended by e.g. Skow (2005) and Schaffer (2009).[25] Schaffer describes the view as follows:

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[24] B-theorists typically combine Four-dimensionalism with Temporal Parity, Anti-temporalism, Permanentism and Propositional Eternalism.
[25] The view is also endorsed by Sider (2001, 110ff).

Spacetime is substance enough. There is no need for the dualism of the contained and the contained (or for fundamental containment relations). When God makes the world, she need only create spacetime.

4D Spacetime Monism is not a non-standard theory: it is a key player on the field. Moreover, there is no doubt that those who use the labels 'Presentism' and 'Eternalism' would count it as an Eternalist theory. However, notice that on our revised versions of Cameron's definitions, 4D Spacetime Monism is a Presentist theory. According to 4D Spacetime Monism, times are hyperplanes[26] and nothing bears the fundamental location relation to a time, so it is true that if anything bears the fundamental location relation to a time, it bears the fundamental location relation to the present time.

It appears that Cameron faces a dilemma: either allow that the location relation mentioned in his proposed definitions of Presentism and Eternalism can be non-fundamental, in which case Presentism+ counts as an Eternalist theory; or specify that the location relation must be fundamental, in which case 4D Spacetime Monism counts as a Presentist theory. However, there does seem to be a way out for Cameron: allow that the location relation can be non-fundamental, but specify that times must be *concrete*. In that case, given Cameron's definitions, Presentism+ does not imply Eternalism, as it is false according to Presentism+ that there are things located at concrete past and future times (time-propositions are non-concrete); and 4D Spacetime Monism does imply Eternalism, as it is true according to 4D Spacetime Monism that there are things located at concrete past and future times, where for some x to be located at a time t is for x to overlap t (read 'R(x,y)' as 'x is a part of y'):

LOCATION (4DSM): $\forall x \forall t (L(x,t) := \exists y\, R(y,t) \wedge R(y,x))$
(Informally: For some x to be located at a time t is just for x to overlap t)

Unfortunately, there is a problem with this strategy: it implies that certain obviously 'Eternalist' theories are non-Eternalist. For example, consider Dorr's (*Counterparts* MS) theory of time. Dorr's theory combines Permanentism with Propositional Temporalism and a counterpart-theoretic analysis of facts concerning change in individuals, so that (for example) for some particular *x* to have been *F* is for *x* to have a past-counterpart *y* that is *F*. Dorr's theory is Four-dimensionalist – on his view, reality consists in a four-dimensional

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[26] A 'hyperplane' is a maximal instantaneous region of spacetime.

spacetime manifold. However, times are not identified with hyperplanes, but rather with certain sets of ordered pairs called 'counter-pairings'. Given that counter-pairings are non-concrete (they are functions), it follows that on Dorr's theory, nothing is located at a concrete past or future time, and therefore Eternalism is false. (It is true on the theory that there are things located at hyperplanes, but according to the theory, hyperplanes are not times; and it is true that there are things located at times, but times are non-concrete). However, there is little doubt that those engaged in the traditional Presentism-Eternalism debate would count Dorr's theory as a version of Eternalism.

Similarly, consider Bacon's (forthcoming in *Noûs*) theory of time. Like Dorr's theory, Bacon's theory combines Permanentism with Propositional Temporalism. Moreover, like Dorr's theory, Bacon's theory is Four-dimensionalist. However, times are not identified with hyperplanes, but rather with functions from abstract indices – more specifically, from ways of labelling 'time-shifted' properties such as the property of having been sitting 5 minutes ago – to hyperplanes.[27] Given that functions are non-concrete, it follows that on Bacon's theory, nothing is located at a concrete past or future time, and therefore Eternalism is false. (It is true on the theory that there are things located at hyperplanes, but according to the theory, hyperplanes are not times; and it is true that there are things located at times, but times are non-concrete). However, there is little doubt that those engaged in the traditional Presentism-Eternalism debate would count Bacon's theory as a version of Eternalism.

One way for Cameron to avoid this problem would be to replace talk of times in his proposed definition of Eternalism with talk of hyperplanes (i.e. maximal instantaneous regions of spacetime). In that case, Cameron's proposed interpretations of Presentism and Eternalism would be as follows:

PRESENTISM (RC2): $\forall x(\exists h(L(x,h) \supset Present(h)))$
(Informally: Anything located at a hyperplane is located at the present hyperplane)

ETERNALISM (RC2): $\exists x \exists h(Past(h) \wedge L(x,h)) \wedge \exists x \exists h(Present(h) \wedge L(x,h)) \wedge \exists x \exists h(Future(h) \wedge L(x,h))$
(Informally: There are things located at past, present and future hyperplanes)

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[27] See Bacon (forthcoming in *Noûs*, 21-22).

Given these revised definitions, both Dorr's and Bacon's theories imply Eternalism, as does 4D Spacetime Monism (assuming that the location relation can be non-fundamental). Moreover, Presentism+ implies Presentism, as defenders of Presentism+ typically hold that there are no regions of spacetime, and therefore that nothing is located at a hyperplane. In short, the revised version of Cameron's proposal above avoids all of the hard cases we have encountered so far.

However, there is a final hard case for Cameron. Consider the standard 'Presentist' theory defended by e.g. Bigelow (1996), Prior (1970) and Zimmerman (1996), but supplemented with the following theses:[28] first, that there is a permanent manifold of spacetime points and regions standing in permanent geometric relations;[29] second, that there is a fundamental location relation between objects/events and regions of spacetime, but that this relation is temporary – so that, for example, I was but am no longer located at a certain past region of spacetime; and third, that if sometimes, event e occurs then always, there is an abstract state of affairs s corresponding to e – so that, for example, it follows from the fact that there was an event of my birth that there is now (and always was and will be) an abstract state of affairs of my being born, which did but no longer does obtain.[30] Call this theory *Presentism++*.

Presentism++ supplements a number of characteristically 'Presentist' theses – such as Temporalism, Transientism, and Propositional Temporalism – with commitments to a persisting, substantial four-dimensional spacetime manifold and permanent, abstract states of affairs. However, unlike theories such as 4D Spacetime Monism which imply Four-dimensionalism, it is not true according to Presentism++ that there are objects located at/events occurring at past and future hyperplanes: according to Presentism++, it is always the case that there is exactly one hyperplane – namely, the present – at which objects are located and events occur (although of course *which* hyperplane is so distinguished changes as time passes).

It is plausible that many of those who use the labels 'Presentism' and 'Eternalism' would count Presentism++ as a Presentist theory. However, notice that on the revised versions of Cameron's definitions above, Presentism++ is an Eternalist theory. According to Presentism++, there is a permanent state of affairs *s*

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[28] This sort of view is described – but not quite endorsed – by Zimmerman (2011).
[29] As Zimmerman (2011) points out, there are some very good reasons for self-described 'Presentists' to accept the existence of a persisting, substantial, four-dimensional spacetime manifold which retains its fundamental geometrical structure over time. However, as Zimmerman also points out, such 'Presentists' might want to deny that the fourth-dimension of the manifold is a *temporal* dimension in the usual sense.
[30] Again, Zimmerman (2011) provides some very good reasons for self-described 'Presentists' to posit such persisting states of affairs.

(which may or may not obtain) corresponding to every event *e* that ever occurs. Given such permanent states of affairs, Presentists++ will naturally accept something like the following analysis of what it is for a state of affairs *s* to bear the location relation to a hyperplane (where 'Ox' is read 'x obtains'):

LOCATION (P++): $\forall s \, \forall h \, (L(s,h) := A(Present(h) \supset Os))$
(Informally: For some state of affairs s to be located at some hyperplane h is just for it to be the case that whenever h is present, s obtains)

For example, given that there is a hyperplane h such that whenever h is present the state of affairs of my being born obtains, it follows that the state of affairs of my being born is located at h. More generally, it follows given Presentism++ that there are things – namely, states of affairs – located at past and future hyperplanes as well as at the present hyperplane, and therefore that Eternalism (on the revised version of Cameron's definition) is true.

Can Cameron avoid this problem? A tempting response would be to specify that the location relation mentioned in the revised versions of Cameron's definitions must be fundamental. In that case, Presentism++ implies Presentism given Cameron's proposal, as it true given Presentism++ that anything that bears the fundamental location relation to a hyperplane bears that relation to the present hyperplane. However, in that case 4D Spacetime Monism implies Presentism given Cameron's proposal, which is a bad result.

Perhaps Cameron's best option is to simply argue that when we understand that to be *present* in the sense of the traditional definition of Presentism is to be located at the present hyperplane if any, we find that we need to revise our initial judgements about Presentism++. However, it remains the case that many self-described 'Presentists' would count Presentism++ as a version of Presentism, not Eternalism. After all, Presentism++ shares many of its essential characteristics with archetypal 'Presentist' theories: in particular, Presentism++ is a thoroughly *Transientist* view, according to which past objects and events such as Xanthippe and the Battle of Hastings have ceased to be, and future objects and events such as the first Martian President and her inauguration are yet to be.

4. *Concession?*

In the previous section I argued that in order to avoid mistakenly counting certain Presentist theories as non-Presentist (or vice versa), Cameron should revise his proposed interpretations of Presentism and Eternalism so that Presentism is the thesis that everything is if located at a hyperplane located at the present hyperplane, and Eternalism is the thesis that there are things located at past, present and future hyperplanes. I also showed that even on these interpretations, Cameron must still count what seems to be a Presentist theory – namely, Presentism++ – as an Eternalist theory. I don't suggest that this is a fatal problem for Cameron's proposal. However, the fact that it is so difficult to provide an interpretation of the Presentism-Eternalism debate which does not also mistakenly count some Presentist theory as non-Presentist (or vice-versa) plausibly lends some support to the Reformist position.

But does Cameron *really* hold that Presentism should be understood as the thesis that everything is if located at a time located at the present time? Cameron (2016, 137) writes:

> I suspect that the best version of presentism is one on which to be present *just is* to exist. On such a view, to say that something is present just is to say that it exists, and one who accepts such a view will find talk of non-present things unintelligible.

Taking the above quotation in isolation, it sounds as if Cameron endorses an alternative interpretation of the standard definition of Presentism as the thesis that everything is something:

PRESENTISM (RC3): $\forall x \exists y \; y=x$
(Informally: Everything exists)

But this interpretation faces the obvious objection that it implies that Presentism is a logical truth – and whatever Presentism is, it is not supposed to be a logical truth.[31] And in any case, doesn't Cameron hold that Presentism should be interpreted as the thesis that everything is if located at a time located at the present time? What is going on?

In fact, Cameron is making an important point concerning the question of what it is to be present in the sense of the standard definition of Presentism: namely, that how one interprets the meaning of the predicate 'is present' in the context of that definition will naturally depend on one's antecedent theoretical commitments. For

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[31] Deasy (2017) rejects this interpretation on these grounds.

example, Cameron (2015) defends a version of the *Moving Spotlight Theory* which combines (among other things) Four-dimensionalism, Propositional Temporalism and Transientism.[32] And given this sort of theoretical background, it is natural for Cameron to interpret the predicate 'is present' in the context of the standard definition of Presentism as expressing the property of being located at the present time if any. It follows that *for Cameron*, the standard definition of Presentism expresses the non-trivially false thesis that everything is if located at a time located at the present time.

Similarly, consider a B-theorist who accepts (among other things) Four-dimensionalism, Propositional Eternalism and Permanentism. Given this sort of theoretical background, it is natural for the B-theorist to interpret the predicate 'is present' in the context of the standard definition of Presentism as expressing the property of being located at this hyperplane. It follows that *for the B-theorist*, the standard definition of Presentism expresses the non-trivially false thesis that everything is located at this hyperplane.

Finally, consider a self-described 'Presentist' who accepts (among other things) Temporalism, Transientism and Propositional Temporalism (and rejects the existence of spacetime). According to Cameron (2016, 137), given this sort of theoretical background it would be natural for such a self-described 'Presentist' to interpret the predicate 'is present' in the context of the traditional definition of Presentism as simply expressing the property of being something (i.e. existing). It follows that *for such a self-described 'Presentist'*, the standard definition of Presentism expresses the logical truth that everything exists.

We now have an explanation for the above quotation: when Cameron writes 'I suspect the best version of presentism is one on which to be present *just is* to exist' what he means is that given the typical antecedent theoretical commitments of a certain kind of self-described 'Presentist', the claim that everything is present is equivalent to the logical truth that everything exists. And given that Cameron's own antecedent theoretical commitments differ from those of such a self-described 'Presentist', he does not hold that the claim that everything is present is equivalent to the logical truth that everything exists, but rather to the claim that anything located at a time is located at the present time.

Cameron is surely right that how one understands what it is to be *present* in the context of the standard definition of Presentism will depend on one's antecedent theoretical commitments. We might add that the same goes for what it is to be a *time* and what it is for

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[32] On Cameron's view objects and events are permanent, but there are temporary states of affairs.

something to be *located at* a time,[33] and in the modal case, what is to be *actual*, what it is for something to be a *possible world*, and what it is for something to be *located in* a world. However, it is hard to believe that Presentism in the mouth of the self-described 'Presentist' is the logical truth that everything exists. In that case, self-described 'Presentists' are committed to the claims that (i) the negation of Presentism is a logical falsehood; (ii) the vast majority of self-described 'Eternalists' are in fact Presentists; and (iii) there is no sensible debate to be had about whether Presentism is true. But most self-described 'Presentists' would strongly reject these claims.[34]

Cameron (2016, 138) has a response to this objection:

> We should be more careful dismiss a claim as 'trivial'. A theory can be trivial, but it may not be trivial *that* it is trivial. A judgement of triviality depends on a theoretical background. If p is a trivial truth relative to some set of background theoretical assumptions but not relative to some alternative set of background theoretical assumptions, then *even if the former set of assumptions are correct*, as long as it is a substantive issue which of those background assumptions are correct, it will thereby be a substantive issue *whether* p is trivial… If a certain kind of presentism… turns out to be true, it will be utterly trivial that everything is present… But even so, we shouldn't dismiss these claims as made by such a presentist… for in making them they are proclaiming their commitment to a certain theoretical outlook, and that is a substantive issue.

According to Cameron, for the self-described 'Presentist' the important debate is *not* whether Presentism is true (as Presentism is a logical truth) but whether the theses that imply that Presentism is a logical truth are true. But what are these theses? Presumably they are the sorts of theses that we used in §3 above to distinguish characteristically 'Presentist' views from characteristically 'Eternalist' views – theses like Temporalism, Transientism and Propositional Temporalism. But in that case, Cameron is committed to the view that the traditional Presentism-Eternalism debate should give way to the Temporalism-Anti-temporalism, Transientism-Permanentism and Propositional Temporalism-Propositional Eternalism debates. It should be clear that this is a conclusion with which Reformists will have a great deal of sympathy. Similarly, if Cameron's view is that for the self-described 'Actualist', the important debate is *not* whether

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[33] Indeed, that there are different ways of understanding these notions depending on one's antecedent theoretical commitments is one of the lessons of the discussion in §3 above of Cameron's proposed interpretations of Presentism and Eternalism.

[34] Notice that Tallant's (2014) Liberal Conservative proposal that Presentism is the thesis that presence = existence avoids this problem. Given Tallant's proposal, the standard definition is equivalent to the logical truth that everything exists, but Presentism is not equivalent to the standard definition, and so Presentism is not a logical truth.

Actualism is true (as Actualism is a logical truth) but whether the theses that imply that Actualism is equivalent a logical truth are true, then Cameron is plausibly committed to the view that the traditional Actualism-Possibilism debate should give way to the Modalism-Anti-modalism, Contingentism-Necessitism and Propositional Contingentism-Propositional Necessitism debates. Again, this is a conclusion with which Reformists will have a great deal of sympathy.[35]

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