

The Triviality Argument Against Presentism

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Presentism is typically characterized as the thesis that *everything (unrestrictedly) is present*, and therefore there are (quantifying unrestrictedly) no dinosaurs or Martian presidential inaugurations. Putting aside the vexed question of exactly what it is to be *present* in this context (see Williamson 2013 and AUTHOR 2017), this thesis seems quite straightforward. However, a number of authors – such as Merricks (1995), Lombard (1999), Meyer (2012), Tallant (2014) and Sakon (2015) – have argued that Presentism so characterized must be either trivially true or false by Presentist lights. This is the so-called *Triviality Argument* against Presentism. In this paper I show that three of the four premises of the Triviality Argument are plausibly false. I conclude that Presentists have nothing to fear from the Triviality Argument.

1. *Presentism and Triviality*

According to *Presentism*, reality does not extend beyond the present moment, and therefore there are no (wholly) non-present objects or events: no Xanthippe, no World War II, no first President of Mars, no first Martian presidential inauguration. A little more carefully, Presentism is typically defined as the thesis *that everything is present*:

PRESENTISM: Everything is present

Call this the *standard definition* of Presentism. For example, here is Meyer (2005, 213):

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

And here is Crisp (2003, 215):

For the purposes of this chapter, then, let us think of presentism as the following thesis:

Presentism: It is always the case that, for every x , x is present.

The standard definition of Presentism immediately raises a number of questions, in particular concerning (i) the temporal and modal force of the thesis; (ii) the scope of the quantifier; (iii) and what exactly it is to be *present* in the relevant sense. As for the first two questions, in order to make progress I simply assume that Presentism is if true always true (leaving the modal question unsettled)¹, and that the quantifier is wholly unrestricted (so that abstract objects, if there are any, are present if Presentism is true).² As for the third question, there has been little agreement among Presentists concerning the correct answer. Some candidate answers include: to be present is simply *to be something*; to be present is *to exist now*;³ to be present is *not to have any temporal distance from events that are occurring now*;⁴ to be present is *to be located at the present instant if any*;⁵ presentness is a primitive property.⁶ I have argued elsewhere that there are good reasons for Presentists to resist each of these suggestions.⁷ I would argue, then, that Presentism as standardly defined remains somewhat mysterious.⁸

As standardly defined, then, Presentism is to be understood as the thesis that always, everything (unrestrictedly) is present. Putting aside the question of what it is to be *present* in this context, this seems quite straightforward. However, a number of authors have argued

¹ Crisp (2003) defends this reading.

² Crisp (2004) defends this reading.

³ See Zimmerman (1996). Note that ‘ x exists now’ in this context should not be read as equivalent to ‘ x is located at this instant’, but simply to ‘now, x is something’.

⁴ See Crisp (2003).

⁵ See Cameron (2016).

⁶ See Zimmerman (1996).

⁷ See AUTHOR (2017).

⁸ An increasingly popular response to the question of what it is to be *present* in the sense of the standard definition is to argue that while Presentism is often stated as a simple universal claim, in fact it should be read in some other, quite different way. For example, Stoneham (2009) argues that Presentism should be understood as a claim about ‘truthmakers’; Tallant (2014) argues that Presentism should be understood as a statement of property identity; and Sakon (2015) argues that Presentism should be treated as a claim about propositions. Finally, AUTHOR (2017) argues that Presentism should be treated as a claim concerning the temporariness of existence, to the effect that things both begin and cease to be over time (formally: $S(\exists x P \neg \exists y y=x) \wedge S(\exists x F \neg \exists y y=x)$).

that given the standard definition, Presentism is either trivially true or false even by Presentist lights. Early versions of this objection are raised by Merricks (1995, 523-4) and Lombard (1999). Following Crisp (2004), let us call this sort of objection to Presentism as standardly defined the *Triviality Argument*, and authors who defend the argument *trivialists*. Here is a slightly modified version of Sakon's (2015, 2) contemporary statement of the argument:⁹

(1) The standard definition of Presentism – that *everything is present* – is equivalent to the thesis *that everything that exists is present*.

(2) The sentence 'Everything that exists is present' must be read either as expressing the proposition *that everything that exists now is present* or the proposition *that everything that did, does now, or will exist is present*.

(3) The proposition *that everything that exists now is present* is trivially true – in particular, it is true according to (non-Presentist) *Eternalists*, according to whom there are (wholly) past and future things.¹⁰

(4) The proposition *that everything that did, does now, or will exist is present* is false by Presentist lights – for example, according to Presentists, Xanthippe *did exist* but she is not present.

(c) Presentism as standardly defined is either trivially true or false by Presentist lights.

I am very surprised by the relative popularity of this argument.¹¹ In what follows, I defend Presentism against the Triviality Argument. I

⁹ Meyer (2012) defends a very similar version of the argument.

¹⁰ Eternalists include *B-theorists* such as Sider (2001) and Skow (2015) and *Moving Spotlights* such as AUTHOR (2015) and Cameron (2016).

¹¹ Something like this argument is endorsed by Merricks (1995), Lombard (1999), Stoneham (2009), Meyer (2012), Tallant (2014), and Sakon (2015). I have also seen the argument endorsed by philosophers in other contexts. Responses to the

proceed as follows: in §2 I argue that premise (2) of the Triviality Argument is false. In §3 I argue that premise (3) of the Triviality Argument is false. In §4 I argue that premise (4) of the Triviality Argument is false. I conclude that Presentists have nothing to fear from the Triviality Argument.

2. *Tense and Triviality*

Consider premise (2) of the Triviality Argument:

(2) The sentence ‘Everything that exists is present’ must be read either as expressing the proposition *that everything that exists now is present* or the proposition *that everything that did, does now, or will exist is present*.

Why believe this? Here is Stoneham (2009, 202-3):

The problem [for the standard definition of Presentism] is that the English verbs ‘to exist’ and ‘to be’ must always be tensed: we cannot say that something exists without saying more specifically that it does, has or will exist.

Similarly, here is Meyer (2012, 2):

It is a feature of English syntax that we cannot attribute existence to an object without committing ourselves, by our choice of tense for the verb *to exist*, to a past, present or future time at which the object exists.

Both Stoneham and Meyer – as well as Tallant (2014) and Sakon (2015) – seem to base their acceptance of premise (2) on the thesis that

argument can be found in Ludlow (2004, 33-6), Sider (2006) and Szabó (2006, 399-400). Sider (2006) describes an argument that is closely related to the Triviality Argument, to the effect that the dispute between Presentists and Eternalists is ‘merely verbal’. I do not explicitly consider that argument here, but some of the discussion in what follows is relevant.

Ludlow (2004, 30) calls ‘Very Serious Tensism’, and that I shall call *Tensed Verbs*:

TENSED VERBS: Every natural language (English) verb is inherently tensed

The reasoning from Tensed Verbs to premise (2) is plausibly as follows: Presentism is standardly defined as the *thesis that everything is present*. This definition must be expressed by a natural language English sentence along the lines of ‘Everything is present’, which is logically equivalent to the (natural language English) sentence ‘Everything that exists is present’ (this is just premise (1) of the Triviality Argument). However, given Tensed Verbs, the natural language verb ‘to exist’ in the sentence ‘Everything that exists is present’ must be either past, present, or future tensed – in which case, there are only two plausible readings of the standard definition:¹²

(P1) Everything that exists now is present

(P2) Everything that did, does now, or will exist is present

For now, let us accept the claim that the standard definition must be expressed by a sentence of natural language English (I return to this in §2.2 below). The question is: why should we accept Tensed Verbs? Ludlow (2004) writes about the thesis at length but provides no argument for it. Crisp (2004, 38) writes ‘I have no idea whether VST [i.e. Tensed Verbs] is true. I suspect not...’, but again provides no arguments either for or against the view. Szabó (2006, 399) writes that ‘the main verb within a complete English sentence obligatorily carries tense’, but then writes (2006, n.4):

¹² It also follows from Tensed Verbs that the verb ‘to be present’ in the sentence ‘Everything that exists is present’ must be either past, present, or future tensed. This generates further readings of the target sentence – see in particular Mozerky (2011) – but does not by itself undermine the Triviality Argument. In what follows, unless stated otherwise, I assume that the predicate ‘is present’ is *present tensed*.

The claim that predication in English is inherently tensed is in any case exceedingly implausible. Consider the sentence 'Jack considers Jill fortunate'. According to plausible syntactic views the compliment of 'considers' in this sentence is a so-called small clause – 'Jill fortunate'. This clause is not tensed. Assuming competent speakers understand this sentence by understanding its syntactic constituents and the way those constituents are combined, we have evidence that tenseless predication is meaningful.

If Szabó's argument is successful, we have good reason for thinking that Tensed Verbs is false. Similarly, Zimmerman (2005, 407-9) provides examples of plausibly tenseless verb-forms in 'ordinary English' such as:¹³

(5) I am in Botley on 12 January 2017 (in the context of discussing one's travel plans)

(6) The Beloved Apostle takes his final breath on the island of Patmos (in the context of a speech concerning religious figures)

(7) Aisha smokes

Further examples include sentences such as:

(8) Two plus two equals four

(9) The total energy of an isolated system is constant

(10) There is a counterpart of Trump who lost the election

There are two ways a defender of Tensed Verbs might respond to examples such as the above: either argue that the relevant sentences do not really contain tenseless verbs, or argue that the relevant

¹³ I adopt Szabó's practice here of underlining allegedly tenseless verbs.

sentences are not really sentences of natural language English. Neither response seems very plausible. As an example of the former strategy, Stoneham (2009, 203-6) claims that the sentence

(11) Mary laughs at midday on the 14th July 2006

is 'simply elliptical for' the sentence

(12) Mary laughed, (now) laughs, or will laugh on 14th July 2006

and that the sentence

(13) 3 is prime

is elliptical for the sentence

(14) 3 was, is now, and will be prime (forever)

I find these claims very hard to believe, and Stoneham provides no good reason for believing them. In particular, note that sentence (12) has as a disjunct the sentence 'Mary (now) laughs on 14th July 2006', which is ungrammatical. And if (13) is elliptical for (14) then the sentence

(15) 3 is prime, but won't always be

is contradictory. But someone who argued that 3 will someday cease to be prime would not be saying something *inconsistent*, but rather something consistent and false.

As for the latter strategy, it seems even more implausible to claim that sentences (5) – (10) are not sentences of natural language English. A schoolchild does not cease to speak English when she utters the sentence 'Two plus three equals five', and Brian Cox does not cease

to speak English when he utters the sentence ‘The total energy of an isolated system is constant’. The burden of showing that such sentences are *not* sentences of natural language English, but rather of one or more specialist extensions of English, falls on the defender of Tensed Verbs.

There is another reason to reject Tensed Verbs. If Tensed Verbs is true, it follows that *all quantification in natural language English is restricted* – either to what there is now, what there was, or what there will be (or some disjunction of these). Of course, quantification in natural language English is often restricted to some contextually salient domain. However, there are good reasons to think that it is also possible – and indeed, not that unusual – to quantify unrestrictedly in natural language English. For example, here is Williamson (2003, 415-6):

At the core of metaphysics is ontology. Quine poses the ontological problem by asking ‘What is there?’, and answers, correctly but uninformatively. ‘Everything’ ([FLPV]: 1). To interpret his question and answer as restricted to a domain that excludes some contextually irrelevant things would be to misunderstand Quine by losing the total generality of the problem that he means to raise. He intends a context in which absolutely nothing is excluded as irrelevant. Everything whatsoever contributes to what there is.

Consider an example of a more specific metaphysical theory: out-and-out, no-holds-barred ontological naturalism, as in the slogan ‘Everything is part of the natural world’, in brief, ‘Everything is natural’. To interpret such naturalists as leaving it open that there are some contextually irrelevant non-natural things would be to miss their point, by failing to appreciate the radical extent of their claim (whether it is true or false). To understand them properly, one must interpret them as generalizing without any restriction whatsoever, even if through so doing one comes to regard them as mistaken.

Williamson provides two examples of contexts in which it would clearly be wrong to interpret a speaker of natural language English as quantifying over anything less than absolutely everything. And it is not difficult to think of further examples: for instance, there is a natural context in which it would be wrong to interpret a theist as quantifying restrictedly when she utters sentences such as

(15) God made everything

and

(16) Nothing is greater than God

and there is a natural context where it would be wrong to interpret a grumpy adolescent as quantifying restrictedly when she utters the sentence

(17) Nothing has any meaning

(‘Nothing on this planet?’ ‘Argh, no; I mean *nothing!*’). And if it is possible to quantify unrestrictedly in natural language English, then given that Tensed Verbs implies that all quantification in natural language English is restricted, it follows that Tensed Verbs is false.

Again, there are ways the defender of Tensed Verbs could respond. First, she could concede that Quine, the naturalist, the theist and the grumpy adolescent quantify unrestrictedly, but add that as soon as one quantifies unrestrictedly, one ceases to speak natural language English. The problem with this response is that it is both implausible and unmotivated. It is implausible that the theist ceases to speak English when she says that God made everything, and – in the absence of a good argument for Tensed Verbs – there is no good reason for thinking this is the case.

Second, she could argue that when e.g. Quine asks ‘What is there?’ and answers ‘Everything’, what he *really* asks is ‘What did, does now, or will exist?’, and what he *really* answers is ‘Everything that did, does now, or will exist’ – and that this interpretation is consistent with everything else that Quine says. It is hard to know what to say to someone who makes this sort of move, except to deny it and hope that others see that it is obviously false.

Of course, it may be that everything ‘exists in time’ in the sense that everything that exists *sometimes* exists. Call this thesis *Temporal Existence*:

TEMPORAL EXISTENCE: $\forall x(\exists y y=x \supset \exists y y=x)$
(*Informally: Everything sometimes exists*)

Presentists should accept Temporal Existence. After all, why deny it? Some Presentists might be tempted to deny it on the grounds that there are abstract objects – perhaps numbers, sets, or universals – which ‘exist outside of time’. However, there are better ways to capture the idea that abstract objects exist outside of time. For example, abstract objects (necessarily) have no spatiotemporal location. But having no spatiotemporal location is consistent with e.g. existing *now* (where ‘*x* exists now’ means that it is now the case that *x* is something) because existing now does not imply having a spatiotemporal location: for example, that Xanthippe’s singleton set exists now does not imply that Xanthippe’s singleton set is located at this instant (even B-theorists should reject this implication: see §3 below). And given that if something doesn’t sometimes exist it *never* exists, rejecting Temporal Existence comes at the steep cost of accepting that e.g. abstract objects *never exist*, and – if we accept that what must be the case is always the case¹⁴ – *don’t necessarily exist*.

If Presentists accept Temporal Existence, then given that everything that sometimes exists, exists (formally: $\forall x(S \exists y y=x \supset \exists y y=x)$)¹⁵, it follows that something exists iff it sometimes exists (formally: $\forall x(S \exists y y=x \leftrightarrow \exists y y=x)$), and therefore that something exists iff it did, does now or will exist. In other words, it may well be that Presentists should accept that the set of what there is (quantifying unrestrictedly) is coextensive with the set of what there was, is now, or will be. *But note*: to accept this is *not* to accept that all quantification is restricted to what there was, is now, or will be. In particular, if all quantification were so restricted, then the thesis that something exists iff it sometimes exists would be trivial, which it is not. In fact, it is a substantial and disputed thesis in the metaphysics of time.

We have seen that there are good reasons to reject Tensed Verbs. And if Tensed Verbs is false, Presentists can reject premise (2) of the Triviality Argument. In particular, they can argue that the verb ‘to exist’ in the (natural language English) sentence ‘Everything that exists is present’ is to be read tenselessly, and therefore the standard definition of Presentism should not be read as equivalent to either (P1) or (P2) but rather to the (non-trivial and true) thesis that *everything that*

¹⁴ See e.g. Dorr and Goodman (forthcoming in *Noûs*) for a defence of this thesis.

¹⁵ Some Presentists might be tempted to deny this on the grounds that it implies that e.g. everything that did exist is present, which according to premise (4) of the Triviality Argument is false by Presentist lights. However, that everything that did exist is present is *not* false by Presentist lights – see §4 below.

exists is present.¹⁶ But what does it mean to say that ‘exists’ in the standard definition should be read *tenselessly*? Is there anything Presentists can say to further elucidate the tenseless sense of ‘exists’?

A natural idea is to appeal to the quantifiers of standard first-order predicate logic (just ‘predicate logic’ from now on):¹⁷ for some x to *exist in the tenseless sense* is just for there to be something which is identical to x , where the quantifier in the sentence ‘There is something identical with x ’ is read as equivalent to the existential quantifier (‘ \exists ’) of predicate logic. It follows that the sentence ‘Everything that *exists is present*’ should be read as equivalent to the sentence:

$$(18) \forall x(\exists y y=x \supset \text{Present}(x))$$

And it is clear that *this* sentence expresses neither (P1) nor (P2), as the quantifiers of predicate logic do not convey the relevant temporal information. After all, if they *did* the sentence

$$(19) P \exists x \text{Dodo}(x)$$

would have to be read either as expressing the proposition that it was the case that *there is now* an x such that x is a dodo, or the proposition that it was the case that *there was, is now, or will be* an x such that x is a dodo. But neither reading is correct: (19) simply expresses the proposition that it was the case that for some x , x is a dodo. (As Rini and Creswell (2012, 65) point out – following Barcan (1965) – it would be a mistake to think of the quantifiers of predicate logic as *verbs*. They can be read *as if* they are verbs, as when (19) is read as equivalent to ‘It was the case that there is an x such that x is a dodo’ – but they can also be read simply as quantifiers, as when (19) is read as equivalent to ‘It was the case that, for some x : x is a dodo’. It is plausibly the initial sort of reading that encourages the mistaken idea that quantifiers must carry tense.)

Some trivialists might object to the claim that the standard definition should be read as equivalent to sentence (18) on the grounds

¹⁶ Note that Presentists who argue this way can still accept that the verb ‘to be present’ in the standard definition is present-tensed – the sentence ‘Everything that *exists is now* present’ is neither trivial nor false by Presentist lights.

¹⁷ Sider (2006) and Szabo (2006) recommend this response to Presentists.

that there are no expressions of natural language English equivalent in meaning to the quantifiers of predicate logic, and therefore if the standard definition is to be read as equivalent in meaning to (18), the standard definition is not a sentence of natural language English. Now, it is not clear to me whether the quantifiers of predicate logic *can* be expressed in natural language English, as it is not clear to me exactly where the bounds of natural language English lie. However, *if* they cannot, it does follow that the standard definition is not a sentence of natural language English. But why should this trouble Presentists? There is no reason to think that Presentism *must* be such that it can be expressed in natural language English. After all, Presentism is a metaphysical thesis, and metaphysical theses ought to be expressed in the most metaphysically perspicuous terms possible – and predicate logic is plausibly a better candidate for a language whose terms so cut than natural language English. Moreover, if the standard definition is not after all a sentence of natural language English, then *whether or not Tensed Verbs is true*, Presentists can reject premise (2). On the other hand, if the quantifiers of predicate logic *can* be expressed in natural language English, then the standard definition of Presentism can be expressed by a sentence of natural language English, and Tensed Verbs is false (given that the quantifiers of predicate logic are tenseless).

It may seem that the claim that the standard definition should be read as equivalent to sentence (18) provides Presentists with a straightforward way to avoid premise (2) of the Triviality Argument. However, there are a couple of responses available to trivialists, due to Meyer (2012, 3-4) and Stoneham (2009, 208-10). Let us consider each in turn. (Meyer's argument has as a target Presentists who hold that the standard definition should be read as expressing the proposition that everything that exists is present, but I take it that this includes Presentists who hold that the standard definition should be read as equivalent to sentence (18).)

Meyer's argument is as follows:¹⁸ first, suppose the standard definition is to be read as expressing the proposition that everything that exists is present (formally: $\forall x(\exists y y=x \supset \text{Present}(x))$). Given that if everything is *F* then everything that is *G* is *F*, it follows straightforwardly that everything that *did, does now, or will exist* is present (formally: $\forall x((P \exists y y=x \vee N \exists y y=x \vee F \exists y y=x) \supset \text{Present}(x))$). In short: the standard definition implies that everything that did, does now, or will exist is present. Second, as we saw above, there are good

¹⁸ This argument is anticipated by Crisp (2004, 17). My presentation of the argument differs from Meyer's, but I take it to be essentially the same.

reasons for Presentists to accept Temporal Existence, the thesis that everything sometimes exists (formally: $\forall x(S \exists y y=x)$). Given that what is *sometimes* the case *was, is now, or will be* the case, Temporal Existence implies that everything *did, does now, or will exist* (formally: $\forall x(P \exists y y=x \vee N \exists y y=x \vee F \exists y y=x)$). But the thesis that everything *did, does now, or will exist* and the thesis that everything that *did, does now, or will exist* is present jointly imply that everything that exists is present. In short: given Temporal Existence, the thesis that everything that *did, does now, or will exist* is present implies the standard definition.

It follows from the above that Presentists must accept that the standard definition *is equivalent to* the thesis that the thesis that everything that *did, does now, or will exist* is present. However, the thesis that everything that *did, does now, or will exist* is present is just (P2), which – according to premise (4) of the Triviality Argument – is false by Presentist lights. So the claim that the standard definition is to be read as expressing the proposition that everything that exists is present does nothing to help Presentists avoid at least one horn of the Triviality Argument, namely, that their thesis is false by their own lights.

How should Presentists respond to Meyer’s argument? Simple: they should accept that their thesis is equivalent to (P2), and deny that (P2) is false by their own lights. I argue that (P2) is not false by Presentist lights in §4 below.

Let us now turn to Stoneham’s argument. Stoneham argues as follows: Presentists might try to reject premise (2) of the Triviality Argument as above, by claiming that the quantifiers in the standard definition should be read as equivalent to the quantifiers of predicate logic. However, in order to understand the quantifiers of predicate logic, we have to understand the semantics of predicate logic. The semantics of predicate logic involve two essential elements:

(i) A *structure* S comprising an ordered pair $\langle D, I \rangle$ where D is some non-empty set and I is a function from the set of all constants, sentence letters and predicate letters such that the value of every constant is an element of D ; the value of every sentence letter is a truth value T or F ; and the value of every n -ary predicate letter is an n -ary relation.

(ii) A *variable assignment* α over S which assigns a member of the domain D_s of S to each variable. Given a structure S and

variable assignment α over S , the quantifiers can be given the standard semantic clauses:

$\models \exists v \varphi \models_s = T$ if and only if $\models \varphi \models_s = T$ for at least one variable assignment \mathbf{b} over S differing from α in v at most

$\models \forall v \varphi \models_s = T$ if and only if $\models \varphi \models_s = T$ for all variable assignments \mathbf{b} over S differing from α in v at most

The key point here is this: when the quantifiers are taken to be *unrestricted* – as in the standard definition of Presentism – the domain D in S is understood to contain *everything*, or equivalently, *everything that exists*. But the characterization of D as the set of everything that exists is made in the meta-language – in this case, natural language English. And if Tensed Verbs is true, the claim that D contains everything that exists can only be read in one of two ways: as the claim that D contains everything that *exists now*, or the claim that D contains everything that *did, does now, or will exist*. It follows that *even if* the quantifiers in the standard definition are read as equivalent to the quantifiers of predicate logic, the sentence must still be read either as expressing the proposition that everything that *exists now* is present or the proposition that everything that *did, does now, or will exist* is present.

How should Presentists respond to Stoneham's argument? They should point out that when they argue that the quantifiers in the standard definition should be read as equivalent to the tenseless quantifiers of predicate logic, they are *not* arguing that the formal semantics of predicate logic provides a way of understanding tenseless quantification *that does not itself rely on the notion of tenseless quantification* – in other words, they should make it clear that they are not arguing that the semantics of standard first-order predicate logic provides an *analysis* of tenseless quantification. Rather, they are simply arguing that *given that the quantifiers of predicate logic are tenseless*, all Presentists need to do to avoid premise (2) of the Triviality Argument is to specify that the quantifiers in the standard definition should be read as equivalent to the quantifiers of predicate logic.

Of course, authors such as Stoneham (2012) who hold that the quantifiers of predicate logic are *not* tenseless will not be moved by

this response.¹⁹ So much the worse for them: they are wrong about the quantifiers of predicate logic. As we saw above, Stoneham holds that the quantifiers of predicate logic must be tensed, because the sense of ‘everything’ employed in the metalanguage characterization of the domain *D* when the quantifiers are read as unrestricted must itself be tensed. However, the *tenseless* sense of ‘everything’ is exactly the sense of ‘everything’ employed in the metalanguage characterization of the domain *D* when the quantifiers are read as unrestricted.

Stoneham could respond to this by arguing that (i) there is no tenseless quantification in natural language English and (ii) the metalanguage in which the semantics of predicate logic is given is natural language English. However, we have already seen that there are good reasons to reject the claim that there is no tenseless quantification in natural language English: to use Williamson’s (2003, 415-6) examples once again, it would be wrong to interpret Quine as asking ‘What did, does now, or will exist?’ and answering ‘Everything there was, is now, or will be’; and it would be wrong to interpret the ‘ontological naturalist’ as stating that everything *there was, is now, and will be* is part of the natural world. And even if there were some good reason for thinking that there is no tenseless quantification in natural language English, there is no obvious reason to think that the metalanguage in which the semantics of predicate logic is given must be natural language English, rather than some suitable extension of natural language English which includes tenseless quantification.

3. Tense Operators and the B-theory

We saw above that there are good reasons to reject Tensed Verbs. But suppose that Tensed Verbs is true, and that the standard definition of Presentism is after all a sentence of natural language English. In that case, it seems true that the two most plausible readings of the standard definition are:

(P1) Everything that exists now is present

¹⁹ Stoneham (2009, 210; my emphasis) writes: ‘The problem is that first-order formal languages certainly give us the means for *syntactically* tenseless predication [and quantification], but it does not follow that we have *semantic* tenselessness.’

(P2) Everything that did, does now, or will exist is present

According to premise (3) of the Triviality Argument, (P1) is trivial. But why believe this? Here is Meyer (2012, 2):

This thesis [(P1)] is true, but trivial. Since being present and existing now amount to the same thing, P1 merely notes that everything that exists now, exists now. Everybody has to accept this view, irrespective of their views about the metaphysics of time.

And here is Tallant (2014, 478):

P1 is trivially true. Of course nothing exists *now* that is not present. No-one denies this. Even Eternalists endorse P1.

The argument here is roughly as follows: ‘exists now’ and ‘is present’ mean the same thing, and therefore (P1) – the sentence ‘Everything that exists now is present’ – is true given any theory of time, including obviously non-Presentist theories such as Eternalism. In that sense, (P1) is trivial.

The first question we must ask in relation to this argument is whether ‘exists now’ and ‘is present’ really *do* mean the same thing. In certain informal contexts, the two expressions can certainly be treated as equivalent. And given Presentism, it would be natural to treat the predicates ‘exists now’ and ‘is present’ as expressing the same property – perhaps the property of simply *being something*.²⁰

Suppose, however, that one is an Eternalist *B-theorist*, according to whom reality consists in a four-dimensional spacetime manifold and there is nothing metaphysically special about the present instant in virtue of which it is present.²¹ On this view, the predicate ‘is present’ is naturally taken to express the property of *being located at this instant*, so that the sentence

²⁰ See e.g. Zimmerman (1996).

²¹ See especially Sider (2001) and Skow (2015). It is natural for B-theorists to identify *instants of time* with maximal simultaneity-slices of the manifold. Of course, given STR it follows that there are no instants *simpliciter*, only instants *relative to a frame*. However, for ease of exposition I will omit reference to frames in what follows.

(1) $\exists x \text{Dinosaur}(x) \wedge \text{Present}(x)$
(Informally: Some dinosaur is present)

means the same as

(2) $\exists x(\text{Dinosaur}(x) \wedge \text{Located}(x, \text{now}))$
(Informally: There is a dinosaur located at this instant)

What about the predicate ‘exists now’? Consider the sentence

(3) $\exists x(\text{Dinosaur}(x) \wedge \text{N}(\exists y y=x))$
(Informally: Some dinosaur exists now)

It is natural for a B-theorist to treat sentence (3) as equivalent to sentence (2), and therefore to sentence (1). The typical grounds for doing so are that given the B-theory, tense operators such as ‘N’ (‘it is now the case that’), ‘H’ (‘it is always has been the case that’) and ‘G’ (‘it always will be the case that’) are implicit quantifiers over instants of time which function to restrict the quantifiers in their scope to individuals located at the relevant instant.²² Call this thesis *Locators*:

LOCATORS: The standard temporal operators (‘H’, ‘G’, etc.) are implicit quantifiers over instants of time which restrict the explicit individual quantifiers (\forall , \exists) in their scope to things located at the relevant instant

It is natural to associate Locators with the B-theory. However, Locators causes trouble for B-theorists when combined with other natural B-theoretic commitments.²³ For instance, consider the sentence

²² ‘H’ and ‘G’ can be defined in terms of the operators ‘P’ (‘it was the case that’) and ‘F’ (‘it will be the case that’) as follows: $H\varphi =_{(def)} \neg P\neg\varphi$; $G\varphi =_{(def)} \neg F\neg\varphi$. ‘A’ (‘it is always the case that’) and ‘S’ (‘it is sometimes the case that’) can be defined as follows: $A\varphi =_{(def)} H\varphi \wedge \varphi \wedge G\varphi$; $S\varphi =_{(def)} P\varphi \vee \varphi \vee F\varphi$.

²³ It is well known that the modal analogue of Locators – the principle that the standard modal operators ‘ \Box ’ (‘it is necessarily the case that’) and ‘ \Diamond ’ (‘it could be

(4) There are many instants of time

This sentence is surely true given the B-theory. However, given the basic temporal-logical principle that what is the case is sometimes the case ($\varphi \supset S\varphi$) – call this *Sometimes* – (4) implies

(5) Sometimes, there are many instants of time

which given Locators means the same as the contradictory

(6) There is an instant of time at which there are many instants of time

Call this problem for B-theorists the *Locator Puzzle*. There are a number of ways in which B-theorists could try to deal with the Locator Puzzle. For example, they could (i) argue that (4) is actually false given the B-theory; (ii) argue that (4) is true given the B-theory *only when read as a sentence of some non-natural language that is an extension of English*, and moreover that sentences of *this* language are not valid substitution instances of Sometimes; (iii) argue that (4) expresses an ‘atemporal’ truth, and that sentences that express atemporal truths are not valid substitution instances of Sometimes; or (iv) defend some revised version of Locators on which (5) does not imply (6).²⁴ Each of these strategies come with its own costs and complications.²⁵ A particularly attractive alternative strategy, however, is to hold that given the B-theory, tense operators are simply *redundant* when applied to *purely*

the case that’) are implicit quantifiers over possible worlds which restrict the explicit individual quantifiers within their scope to things located at the relevant worlds – causes trouble for Modal Realists when combined with other natural Modal Realist commitments such as the modal-logical axiom $T(\varphi \supset \diamond\varphi)$ and the claim that there are many possible worlds.

²⁴ In particular, it would be natural for B-theorists to consider defending a temporal analogue of Bricker’s (2001) ‘island-universe friendly’ analysis of the modal operators, so that (roughly) ‘ $S\varphi$ ’ means the same as ‘restricting attention to things located at some interval of time i , φ ’.

²⁵ Unfortunately, space does not permit an assessment of the different strategies here. See Marshall (2016) for relevant discussion.

qualitative sentences (i.e. sentences built entirely out of non-referential material such as quantifiers, logical connectives, and non-referential predicates). Call this thesis *Redundancy*:²⁶

REDUNDANCY: If φ is a closed sentence containing no referential material then $H\varphi$ and $G\varphi$ are equivalent to φ

B-theorists who reject Locators in favour of Redundancy have an attractively simple solution to the Locator Puzzle: given Sometimes, sentence (4) implies sentence (5), but sentence (5) does not imply sentence (6) – rather, sentence (5) is logically equivalent to sentence (4). (And, returning to our earlier example, given Redundancy sentence (3) is not equivalent to sentence (2), but to the sentence ‘Some dinosaur exists’ [formally: $\exists x(\text{Dinosaur}(x) \wedge \exists y y=x)$].)

Of course, this strategy also has its costs – for instance, given that the B-theory implies that there are dinosaurs located at past instants and therefore that there are dinosaurs (see Sider 2006), given Redundancy the B-theory implies:

(7) $\Box \exists x \text{Dinosaur}(x)$
(*Informally: there are always dinosaurs*)

Some might object that sentence (7) conflicts with ‘temporal common sense’, and therefore that B-theorists should reject Redundancy.²⁷ However, accepting the truth of sentences like (7) might be considered a small price to pay for a simple and elegant means of avoiding the contradiction generated by Locators, Sometimes and the truth of sentence (4). In short, Redundancy is a strong contender for the best B-theoretic solution to the Locator Puzzle.

Let us now return to the Triviality Argument. As we saw above, according to premise (3) of the argument (P1)

(P1) Everything that exists now is present

²⁶ The modal analogue of Redundancy is defended by Dorr (Counterparts MS), Divers (2002, 2014) and Noonan (2014).

²⁷ Marshall (2016) raises something like this objection against the modal analogue of Redundancy.

is trivial in the sense of being true no matter what theory of time one holds – including the B-theory. Now, (P1) plausibly has the following logical form:

$$(P1) \forall x(N(\exists y y=x) \supset Present(x))$$

Given Locators and the natural B-theoretic interpretation of ‘is present’ as expressing the property of *being located at this instant*, this sentence is equivalent to

$$(P1^*) \forall x(Located(x, now) \supset Located(x, now))$$

(Informally: Everything located at this instant is located at this instant)

This sentence is indeed trivially true given the B-theory. However, *given Redundancy*, (P1) is equivalent *not* to (P1*) but to

$$(P1^{**}) \forall x(\exists y y=x \supset Located(x, now))$$

(Informally: Everything that exists is located at this instant)

And this sentence, unlike (P1*), is *false* given the B-theory, according to which there are many things – such as Xanthippe and the first President of Mars – that exist but are not located at this instant.

In sum: according to premise (3) of the Triviality Argument, (P1) – the sentence ‘Everything that exists now is present’ – is trivial in the sense of being true no matter what theory of time one holds, including the popular B-theory of time. However, we have seen that *if* B-theorists accept a very attractive solution to the Locator Puzzle – that is, the strategy of rejecting Locators in favour of Redundancy – then premise (3) is in fact false. The truth of premise (3), therefore, should not be taken for granted by supporters of the Triviality Argument.

4. Presentism and Temporal Ontology

Finally, let us turn to premise (4) of the Triviality Argument, the claim that (P2)

(P2) Everything that did, does now, or will exist is present

is false by Presentist lights. Why think this? Here is Myer (2012, 2):

Let us therefore say that an object exists temporally if and only if it either has existed, does exist now, or will exist. With 'exists' read in this broader sense, the presentist thesis becomes:

(P2) Nothing exists temporally that is not present.

This thesis is non-trivial, but it is also clearly false. Here is a counterexample: (JC) Julius Caesar crossed the Rubicon.

Because non-existent people cannot cross rivers, this claim can only be true if Caesar existed. But if Caesar did exist then he does exist temporally. And since he does not exist now, this means that there is an object, namely Caesar, that exists temporally without being present. Given that (JC) is true, the thesis (P2) is false.

Given Myer's definition of 'exists temporally', his (P2) above is equivalent to our (P2). Similarly, here is Sakon (2015, 1090):

(P2) For any x , if x has existed, exists, or will exist, x is present.

(P2) is obviously false because there is an obvious counterexample. For instance, Socrates is not present but *has existed* previously.

Again, Sakon's (P2) is equivalent to our (P2).

How should Presentists respond to this argument? First, note that it is not entirely obvious that Presentism is inconsistent with the view that everything that did, does now, or will exist is present (and therefore that e.g. Xanthippe is present). For example, consider a Presentist who rejects the *Temporal Being Constraint* (the temporal analogue of the modal principle that Plantinga (1983) calls 'serious actualism' and Williamson (2013) calls 'the being constraint'):

TEMPORAL BEING CONSTRAINT: $\forall x_1 \dots \forall x_n (\mathbf{R}x_1 \dots x_n \supset \exists y (y = x_i))$ for $1 \leq i \leq n$

According to the Temporal Being Constraint, whenever an atomic predication is true of an individual *there is something* that is that individual; informally, existence is a precondition for having properties or standing in relations. Presentists who *reject* the Temporal Being Constraint hold that sometimes, there are individuals who have properties or stand in relations but do not exist. For example, here is Salmon (1998, 290; my emphasis) on his proposal that the non-existent proposition that Socrates does not exist is both *true* and *has Socrates as a constituent*:

Some may balk at my proposal on the grounds that it conflicts with the metaphysical principle that any object must exist in every conceivable circumstance in which that object has any properties. *This principle that existence is a pre-condition for having properties - that existence precedes suchness... is a confused and misguided prejudice.* Undoubtedly, existence is a prerequisite for a very wide range of ordinary properties... But the sweeping doctrine that existence universally precedes suchness has very clear counterexamples in which an object from one circumstance has properties in another circumstance in virtue of the properties it has in the original circumstance. Socrates does not exist in my present circumstance, yet he has numerous properties here - for example, being mentioned and discussed by me.

A Presentist who followed Salmon in rejecting the Temporal Being Constraint could resist premise (4) of the Triviality Argument as follows: it is true according to Presentism that everything that did, does now, or will exist is present, and therefore that e.g. Xanthippe is present. But this is *not* false by Presentist lights. One might have thought so on the grounds that Presentists must accept both of the following claims: (i) there is (now) nothing that is Xanthippe; and (ii) if Xanthippe is present, she is something (which follows from the Temporal Being Constraint). However, it is consistent with Presentism that (ii) – and therefore the Temporal Being Constraint – is false: that is, that Xanthippe is now present but is *not* now something.

This sort of Presentist faces two obvious objections. The first is simply that it is implausible that e.g. Xanthippe – who died over two thousand years ago – is *present*: if she is anything at all, she is (merely) past. The second is that it is very hard to believe that there could be

exceptions to the Temporal Being Constraint.²⁸ In particular, a Presentist who claimed that Xanthippe is present but not something would face the accusation that they had failed to really grasp what it means for there to be *nothing* that is Xanthippe. As an example of this sort of response, here is Williamson (2013, 156) on the combination of *Contingentism* (the view that there could be contingent things, or more formally: $\diamond \exists x \diamond \neg \exists y y=x$) and a rejection of the *Modal Being Constraint*:

Without it [the Modal Being Constraint], contingentism looks ambivalent: the supposed counterexamples to the being constraint are pictured as casting enough of a modal shadow on circumstances from which they are absent to bear properties and relations without being present themselves. Although such spatial pictures are easily imaginable in themselves, they betray the contingentist when applied to the being constraint, since they represent the supposed counterexamples to it as merely elsewhere, within range of an unrestricted quantifier and therefore something in the relevant sense, and merely out of range of a quantifier restricted to local things. They give comfort only to those who have failed to grasp how radical is the nothingness required of counterexamples to the being constraint.

We have seen that Presentists who reject the Temporal Being Constraint can resist premise (4) of the Triviality Argument, although not without some difficulty. An alternative approach is to retain the Temporal Being Constraint, and instead accept *Permanentism*:^{29,30}

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

²⁸ Most Presentists accept the Temporal Being Constraint. For example, Crisp (2005) – a Presentist – describes an alleged counterexample to the Temporal Being Constraint as ‘bizarre’. Indeed, some authors have argued that Presentism *implies* the Temporal Being Constraint – see e.g. Bergmann (1999). However, others have disputed this, and drawn attention to the advantages for Presentism of rejecting the Constraint – see e.g. Inman (2012).

²⁹ Permanentism is the temporal analogue of *Necessitism*, the thesis that necessarily, everything is necessarily something (formally: $\Box \forall x \Box \exists y y=x$). The names ‘Permanentism’ and ‘Necessitism’ are due to Williamson (2013), who defends the conjunction of Necessitism and *Propositional Contingentism* (the thesis that there are propositions that are true [false] but could be false [true]).

³⁰ Most Presentists seem to reject Permanentism in favour of *Transientism*, the thesis that things both begin and cease to be over time (formally: $S \exists x P \neg \exists y y=x \wedge S \exists x F \neg \exists y y=x$).

According to Permanentism it is always the case that everything exists eternally – and therefore there is no change over time in what there is. It follows that e.g. given that there *was* something that is Xanthippe, there *is now* – and *always will be* – something that is Xanthippe. However, it does not follow that Xanthippe is still a human being or even spatially located – Permanentism is silent on Xanthippe’s current qualitative nature. More generally, Permanentism is consistent with *Qualitative Transientism*, the thesis that fundamental physical properties like having mass, and charge, and a spatial location are *temporary* (in contrast to *permanent* properties such as having mass at instant *t*) – and therefore that individuals undergo a great deal of qualitative change over time.

A Permanentist Presentist could resist premise (4) of the Triviality Argument as follows: it is true according to Presentism that everything that did, does now, or will exist is present, and therefore that e.g. Xanthippe is present. But this is *not* false by Presentist lights. One might have thought so on the grounds that Presentists must accept both of the following claims: (i) there is (now) nothing that is Xanthippe; and (ii) if Xanthippe is present, she is something (which follows from the Temporal Being Constraint). However, it is consistent with Presentism that Permanentism is true and therefore (i) is false: that is, that Xanthippe is now something.

Again, this sort of Presentism faces the objection that it is implausible that e.g. Xanthippe is *present*. However, Permanentist Presentists have a response to this objection: even in the absence of the Triviality Argument, the conjunction of Permanentism and Presentism (as standardly defined) implies (P2): if everything is present and there is never any change in what there is, then everything there was and will be is present, and therefore e.g. Xanthippe is present. Moreover, Permanentist Presentists will naturally accept Qualitative Transientism; and given Qualitative Transientism, they can argue that although Xanthippe is now something, she has changed in all sorts of important ways – in particular, she no longer has a spatial location. And if we think of *being present* as being located at the present instant *if any*, then there is a natural sense in which Xanthippe is present (i.e. she is *not* located at a past or future instant).³¹

The question is: can Presentists be Permanentists? A natural thought is that both Transientism

³¹ The idea that to be present in the Presentist sense is to be located at the present instant if any is due to Cameron (2016).

TRANSIENTISM: $S \exists x P \neg \exists y y=x \wedge S \exists x F \neg \exists y y=x$
(Informally: Things both begin and cease to be over time)

and Qualitative Transientism are *essential* Presentist theses: in other words, that Presentism implies change in both what there is and how things are.³² However, some authors have argued that Presentism carries no implications concerning *ontological* change over time. In particular, Cameron (2016) – motivated by the intuition that Presentism is consistent with ‘Democritean atomism’, the view that all there are are eternally existing simples – argues that what is essential to Presentism is just that there is nothing located at a past or future instant. Unfortunately, space does not permit a discussion of the relevant arguments here. However, *if* Presentism is consistent with Permanentism, then Presentist Permanentists would seem to have a strong case against premise (4) of the Triviality Argument.

We have seen that Presentists who either reject the Temporal Being Constraint or – perhaps more plausibly – reject Transientism in favour of Permanentism can resist premise (4) on the grounds that it is *not* inconsistent with Presentism that e.g. Xanthippe is present. However, there is a much simpler Presentist response to premise (4) due to Crisp (2004), which does not require any deviation from ‘standard’ Presentist package of the Temporal Being Constraint and Transientism. The response is as follows: (P2) is naturally formalized as:

(P2) $\forall x((P \exists y y=x \vee N \exists y y=x \vee F \exists y y=x) \supset \text{Present}(x))$

(P2) implies that Xanthippe is present only if one also accepts:

(1) $\exists x P(x=\text{Xanthippe})$

But Presentists *reject* (1) – rather, they hold that Xanthippe *did* exist but

³² See AUTHOR (2017) for a defence of the view that Transientism is essential to Presentism.

does no longer:³³

$$(2) P(\exists x x=Xanthippe) \wedge \neg \exists x P(x=Xanthippe)$$

And it does not follow from (2) and (P2) that Xanthippe is present. (More generally, it is no surprise that (P2) is consistent with the standard Presentist view that Xanthippe is not present: as mentioned above in §2, given that if everything is *F* then everything that is *G* is *F*, Presentism as standardly defined *implies* (P2).)

How do trivialists respond to this simple logical point? One obvious response is to appeal to Tensed Verbs, as follows:³⁴ the quantifier ' $\forall x$ ' in the formalization of (P2) above is intended to be read as equivalent to the tenseless expression 'everything that exists'. But this is impossible: given Tensed Verbs, every natural language (English) verb is inherently tensed, and therefore the expression must be read as equivalent to either 'everything that exists now' or 'everything that did, does now, or will exist'. But if the initial quantifier in (P2) is read as equivalent to 'everything that did, does now, or will exist', then given Presentism (P2) *does* imply that Xanthippe is present, as it is true according to Presentists that there *was* something that was Xanthippe. (And there is no point in responding that predicate logic provides a distinct tenseless sense of 'exist' (i.e. 'exist'), because – as Stoneham 2012 argues – the sense of 'exist' employed in the metalanguage characterization of the domain of the quantifiers must itself be tensed.)

However, this response does very little to help the trivialist. Even if Tensed Verbs were true – and, as we saw in §2, there are very good reasons for thinking it is false – the result of reading the initial quantifier in (P2) as *tensed* simply yields:

$$(P2^*) \forall x((P \exists y y=x \vee N \exists y y=x \vee F \exists y y=x \supset (P \exists y y=x \vee N \exists y y=x \vee F \exists y y=x)) \supset \text{Present}(x))$$

(Informally: Anything that did, does now, or will exist is such that if it did, does now, or will exist then it is present)

³³ For the purposes of this discussion, I am ignoring the problem for Presentists of accounting for the truth of sentences featuring expressions such as 'Xanthippe' which apparently refer directly to non-present entities.

³⁴ This is essentially Ludlow's (2004) reply to Crisp (2004).

And as with (P2), (P2*) only implies that Xanthippe is present if Presentists accept (1) – which they do not!

Tallant (2012, 481) defends a similar trivialist response to the simple logical point. According to Tallant, given Tensed Verbs, Presentists must understand sentences such as (1) above as equivalent to either

$$(3) \exists_{n}x P(x=Xanthippe)$$

or

$$(4) \exists_{t}x P(x=Xanthippe)$$

Here ' $\exists_{n}x$ ' means 'for some x that exists now' and ' $\exists_{t}x$ ' means 'for some x that did, does now, or will exist'.³⁵ Tallant then argues that Presentists must reject (3) – that there is *now* something that was Xanthippe – given that they also hold that Xanthippe is not present and that something exists now just in case it is present. It follows that Presentists must treat (1) as equivalent to (4). But in that case, Tallant concludes, Presentists must accept (1) after all, as it is true according to Presentism that there is an x that *did exist* that was identical with Xanthippe.

It should be clear that Tallant's response suffers from the same flaw as the previous response: if ' $\exists_{t}x$ ' means 'for some x that did, does now, or will exist', (4) is equivalent to

$$(5) \exists x (P \exists y y=x \vee N \exists y y=x \vee F \exists y y=x) \wedge P(x=Xanthippe)$$

(Informally: There is something that did, does now, or will exist and it was Xanthippe)

But Presentists reject (5): they hold that

³⁵ Tallant (2012, 481) writes: " $\exists_{t}x(x)$ ' is true iff x either has existed, does exist or will exist'.

(6) $\neg \exists x P(x=Xanthippe)$

Therefore Tallant's response also fails.

Of course, a trivialist could reply that given Tensed Verbs, the quantifier in (6) must be tensed; and if it is tensed, then (6) is in fact *false* given Presentism, as Presentists accept that there *was* something that was Xanthippe. Indeed, this dialectic between the Presentist and trivialist could in principle continue indefinitely, with the Presentist responding by asserting the non-existence of Xanthippe and the trivialist again applying Tensed Verbs to the Presentist's assertion in an attempt to show that the Presentist does after all accept the existence of Xanthippe. On these grounds, the trivialist might even argue in the spirit of McTaggart (1908) that she has caught the Presentist in a 'vicious infinite regress', and that in that sense the Presentist can 'never escape' the conclusion that Xanthippe is present.

Presentists have no more to fear from the trivialist's argument here than A-theorists have from McTaggart's (in)famous argument. Both of the trivialist responses to Crisp's simple logical point described above make the same mistake: they try to use Tensed Verbs to show that Presentists somehow accept the existence of non-present entities such as Xanthippe. But as we have seen, Presentists can easily resist these sorts of arguments by simply denying the existence of the relevant entities – in short, *by being Presentists*. The fact that trivialists can in principle make this mistake *repeatedly* does nothing to undermine the Presentist's position.

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