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How To Understand The Debate Over Presentism And Eternalism

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HOW TO UNDERSTAND THE DEBATE OVER PRESENTISM AND ETERNALISM

by

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DISSERTATION

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Approved By:

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Advisor   Date

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DEDICATION

To Jeni, Maya, Emmett, and Vivian:
For all the time that you deserved,
but I was not able to give you.

PREFACE

This dissertation is a work in analytic metaphysics, with a little bit of metaphilosophy and logic thrown in. It is thus an example of philosophy at its most abstract and boring. Composed during a period of both financial and emotional stress, it was a labor of love. If any persons outside of my committee happen to read this, I hope they see, like me, just how interesting the boring stuff can be.

All errors in the text are unintended exercises for the edification of the reader.

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CHAPTER 1. THE CHALLENGE TO THE DEBATE OVER PRESENTISM AND ETERNALISM

There is a debate in the philosophy of time between presentists and eternalists. Presentism is typically stated as the view that *everything is present*. I will state it more fully as the view that, with the possible exception of things existing outside of time,[1] *everything that exists, exists at the present time*. Eternalism is typically stated as the view that *past, present, and future things exist*. I will state it more fully as the view that everything which ever did exist in the past, does exist in the present, or will exist in the future, exists. Though most of my discussion will center around presentism and eternalism, a third view is also worth mentioning. According to this view, alternatively called no-futurism or the growing block theory, *everything which ever did exist in the past or does exist in the present, exists, but nothing that will exist entirely in the future, exists*.

Eternalists and presentists (as of the time of writing) agree that I exist, that they exist, and that Barack Obama, Hillary Clinton, and Donald Trump exist. Eternalists also think that dinosaurs exist, Plato exists, that the first person (or persons) born in 2050 exists, and, perhaps, that there are human colonies on Mars. Presentists deny the existence of all of these things. No-futurists agree with eternalists that dinosaurs and Plato exist, and agree with presentists that the first person (or persons) born in 2050 does not exist, and that there are no human colonies on Mars.

One might suspect someone writing at length about the debate over presentism and eternalism would have the purpose of arguing that one view or the other is superior. However, the question I take up in this dissertation is whether the debate is substantive at all. Some philosophers (Lombard 1999) (Lombard 2010) (Meyer 2005) (Meyer 2013) argue that presentism and

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[1] When discussing presentism and eternalism, this qualification will often be kept implicit. Some philosophers (Lombard 2010) (Tallant 2014) think there are no timeless things, but I want to leave the issue open.

eternalism are not substantive, opposed philosophical theses, and hence that the debate over presentism and eternalism is not substantive either. When I first encountered the basic argument for the conclusion that presentism is not a substantive philosophical thesis, I was convinced it was correct. My original intention for this dissertation was to show that none of the attempts in the literature to show that the debate is substantive is successful, and that by extending the main line of argument for the conclusion that the debate is not substantive, various supposed consequences and problems raised for presentism and eternalism in the literature can be resolved.

Eventually, however, I became convinced that there is a way to understand presentism and eternalism as substantive, opposed philosophical theses. My goal in this dissertation, then, is first to show that previous attempts in the literature to establish that the debate is substantive fail, and second, to make my own proposal for how to understand presentism and eternalism and to show how the skeptical line of argument for the conclusion that the debate is not substantive fails. As a former skeptic, I appreciate the force of the argument for the conclusion that the debate is not substantive. By refuting attempts in the literature to show that the debate is substantive, I hope to bring out the power of this argument. Ultimately, however, I hope to make a convincing case that presentism and eternalism are substantive metaphysical theses, and that the argument for the conclusion that they are not is fallacious. In this introductory chapter, I will give and clarify the main argument for the conclusion that the debate over presentism and eternalism is not substantive, and then set the course for the rest of the dissertation.

1.1   The Argument for the Conclusion that the Debate is Not Substantive

In this section I will lay out the basic line of argument for the conclusion that presentism and eternalism are not substantive, opposed metaphysical theses. Of course, lots of metaphysical debates, or even the whole of metaphysics itself (Carnap 1950), have been dismissed as lacking

substance by various philosophers.[2] It would be not too surprising, and also not very interesting, if the debate over presentism and eternalism was declared non-substantive by anti-metaphysical philosophers on the grounds that it is a debate in metaphysics, and no metaphysical debates are substantive.

However, those philosophers who claim that presentism and eternalism are not substantive metaphysical theses do not necessarily disregard metaphysical debates generally. Moreover, their contention is neither based on some controversial thesis about language, such as the Verificationist theory of meaning,[3] nor is it the result of some abstruse philosophical argument. Rather, the basic line of argument they offer is simple and straightforward: presentism and eternalism are both ambiguous, and once clarified no substantive philosophical thesis remains.

I give the basic arguments for the conclusions that presentism and eternalism are not substantive metaphysical theses in the following paragraphs. These arguments are based, both in structure and content, in arguments previously developed by Lombard (1999) (2010) and Meyer (2005) (2013).

I begin with the argument for the conclusion that presentism is not a substantive thesis, which goes like this:

1P   Presentism, the thesis that *everything that exists, exists at the present time*, is ambiguous. It could mean that *everything that exists now exists at the present time*.

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[2] A good source for recent discussion of this issue is Chalmers (2009a).
[3] According to the verificationist theory of meaning, the meaning of a synthetic statement (a statement the truth or falsity of which is not determined solely by the meaning of the words it contains) is the procedure by which it could be (empirically) verified.

Or, it could mean that *everything that ever did exist, does exist, or ever will exist, exists at the present time.*[4]

2P   The thesis that everything that exists now exists at the present time is trivially true.

3P   The thesis that everything that ever did exist or ever will exist, exists at the present time is obviously false, and also not what presentists believe.

4P   For a thesis to be philosophically substantive it cannot be either trivially true or obviously false.

5P   Therefore, presentism is not a philosophically substantive thesis.

I suppose that someone might believe that everything that ever did exist or will exist, exists now, contrary 3P. I presume, however, that the presentist does not believe this.

What about eternalism? The argument for the conclusion that eternalism is not a substantive thesis parallels the argument directed against presentism:

1E   Eternalism, the thesis that *everything which ever did exist in the past, does exist in the present, or will exist in the future, exists*, is ambiguous. It could mean that *everything which ever did exist in the past, does exist in the present, or will exist in the future, does, did, or will exist at some time or other*. Or, it could mean that *everything which ever did exist in the past, does exist in the present, or will exist in the future, exists now*.

---

[4] I suppose it could also mean *everything that ever did exist, does exist, and will exist, exists at the present time*. I will not discuss this reading since the presentist is presumably not making an assertion about a particular class of things, those which exist at all times, but about all things that exist in time. Besides, the thesis that everything that ever did exist, does exist, *and* will exist, exists at the present time is trivially true, and hence not a topic for substantive philosophical debate.

2E   The thesis that everything which ever did exist in the past, does exist in the present, or will exist in the future, did, does, or will exist at some time or other is obviously true.

3E   The thesis that everything which ever did exist in the past, does exist in the present, or will exist in the future, exists now, is not what eternalists believe and also obviously false.[5]

4E   For a thesis to be philosophically substantive it cannot be either obviously true or obviously false.

5E   Therefore, eternalism is not a philosophically substantive thesis.

I suppose that someone might deny that there ever did exist or ever will exist things that do not exist now, contrary to 2E. I presume, however, that the presentist does not deny this and so it does not constitute a substantive point of dispute between the presentist and the eternalist.[6]

Though I will primarily focus on presentism and eternalism in this dissertation, let me briefly give a parallel argument concerning no-futurism:

1NF   No-futurism, the thesis that *everything which ever did exist or does exist, exists, but nothing that exists entirely at some future time exists* is ambiguous. The latter clause

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[5] It is not trivially false since it is not trivial that there used to be things which no longer exist, or that there will be things which do not yet exist. For if there was a first moment in time, at that time it would be false that there used to be things which no longer exist. Similarly, if there will be a last moment in time, at that time it is false that there will be things which do not yet exist.

[6] Maudlin (2007) writes that, "I believe that the past is real…. I similarly believe that there is (i.e., will be) a single unique future. I know what it would be to believe that the past is unreal (i.e., nothing ever happened, and everything was just created *ex nihilo*) and to believe that the future is unreal (i.e., all will end, I will not exist tomorrow, I have no future)." (Maudlin 2007, 108-109). This last sentence captures one sense in which someone might believe that everything that exists, exists at the present time. I presume it does not capture what the presentist intends to mean by it. Of course, it is not entirely clear *what* the presentist means.

could mean *nothing that exists entirely at some future time exists now*. Or, it could

mean, *nothing that exists entirely at some future time ever will exist*.

2NF   The thesis that nothing that exists entirely at some future time exists now is trivially

true.

3NF   The thesis that nothing that exists entirely at some future time ever will exist is

obviously false and not distinctive of what no-futurists believe.

4NF   For a thesis to be philosophically substantive it cannot be either trivially true or

obviously false.

5NF   Therefore, no-futurism is not a philosophically substantive thesis.

Of course, someone might believe that this is the last moment of time, and therefore that nothing

will exist at any future time, contrary to 3NF. I presume, however, that this is not what the no-

futurist believes.

It is sometimes claimed that no-futurism must be a substantive thesis because it accounts

for the openness of the future (Stoneham 2009) (Bihan 2014). Since the future does not exist, there

are no facts about what will occur tomorrow, or the next day, and so on. The skeptic will respond

in this way:

Do you mean that future things do not exist now? Surely no one disagrees with this. Do

you mean future things do not exist ever? Surely not, since presumably you think they *will*

exist. You have yet to tell us anything interesting, and until you do, what you tell us cannot

provide any special insight into the question of whether the future is open.

In short, we have to understand no-futurism, presentism, and eternalism as substantive theses

before we can talk about the consequences of those views with respect to whether or not the future

is open, or anything else. The claim that future tensed, contingent statements are neither true or

false is, I grant, a philosophically substantive thesis. However, the skeptic will insist it is not the same as the thesis that things that will exist in the future do not exist. This latter thesis is ambiguous in a way the former is not.

Having argued for the conclusions that presentism, eternalism, and no-futurism are not substantive metaphysical thesis, the argument for the conclusion that the debate over presentism, eternalism, and no-futurism is not substantive is straightforward:

> 1S   A philosophical debate is substantive just in case it is over which of multiple (but apparently inconsistent) philosophically substantive theses is correct.
>
> 2S   Presentism, eternalism, and no-futurism are not philosophically substantive theses.
>
> 3S   Therefore, the debate over presentism, eternalism, and no-futurism is not substantive.

A difficult question lies in the background of this discussion: what makes a thesis philosophically substantive? Neither those authors who argue for the conclusion that presentism and eternalism are not substantive theses, nor those who think they are substantive, offer explicit accounts of philosophical substance. Here I will briefly sketch a rough and messy account of what it is for a thesis to be philosophically substantive.

I submit that a set of theses is *philosophically substantive* just in case each thesis in the set is unambiguous and conceivably true, but together they are mutually inconsistent. Each thesis in such a set is likewise philosophically substantive. What does this amount to? A substantive philosophical thesis must be *apparently* possibly true. What I mean by this is that a reasonable person, in the sense that actual philosophers are reasonable, could believe the thesis to be true after careful reflection. Furthermore, a substantive philosophical thesis must be such that reasonable people can disagree as to its truth after careful reflection. Whether the sum of two and two is four

is not a substantive philosophical thesis, since reasonable persons will not disagree that it is true. Nor is the thesis that the sum of two and two is five a substantive philosophical thesis, since reasonable persons will not disagree that it is false.

If a thesis is philosophically substantive, it ought to be possible for reasonable people to disagree as to its truth after careful reflection. The point of this qualification is to exclude disagreements that result from silly but understandable mistakes. Reasonable people might disagree as to what the sum of two particularly large numbers is, because ordinary people sometimes add incorrectly. On the other hand, I do not claim that for a thesis to be philosophically substantive, it ought to be possible for reasonable to disagree as to its truth after any reflection whatsoever. It may be the case for at least some substantive philosophical thesis, the truth of that thesis could be decided after prolonged and ideal reflection. At least I do not wish my account of philosophical substance to exclude this possibility.

A substantive philosophical thesis need not actually be possibly true. Plenty of philosophical thesis have been claimed by their opponents to be ultimately contradictory, and perhaps some of those claims are correct, but they are substantive nonetheless. For instance, some philosophers have claimed that the thesis that this world, containing as it does a great deal of evil, is created by an all good, all knowing, and all powerful God, is contradictory. Yet it is still a substantive thesis, because some philosophers are inclined to think the problem is inconclusive.

Consider Goldbach's conjecture: every even number greater than two is the sum of two primes. To date there is no accepted proof either of the conjecture or of its negation. The claim that Goldbach's conjecture is true, as well as the claim that it is false, is a substantive mathematical thesis. Yet, it would seem that either Goldbach's conjecture or its negation is not only true, but

necessarily true.[7] I contend similarly that a substantive philosophical thesis may in fact be necessarily true or false. Whether a philosophical thesis is substantive depends upon whether its truth is controversial to reasonable persons.

In other words, a thesis is philosophically substantive just in case there is an unambiguous statement of the thesis such that philosophers could reasonably disagree as to its truth. A substantive philosophical thesis is thus *philosophically controversial*. This is intended to be understood so that the domain of philosophically controversial theses is quite wide: philosophers are, have been, and we can reasonably surmise will be, willing to debate the truth of quite a lot.

Philosophers can reasonably disagree about a thesis just in case they can reasonably disagree whether the arguments which may be raised for or against the thesis are conclusive. By 'philosophers' I have in mind either actual philosophers or hypothetical philosophers who are very much like actual philosophers. By 'reasonable' I mean the way in which actual philosophers are reasonable: capable of understanding and generating sustained arguments, but neither logically infallible or totally free from conceptual confusions. Thus, on my proposal, for a philosophical thesis to be substantive it must be possible in principle to state it in a way that is unambiguous, but the arguments for or against the thesis may well be fallacious.

One consequence of making the truth of a thesis philosophically controversial just in case it is something actual philosophers could debate about is that whether or not the truth of a thesis is philosophically controversial is somewhat a matter of context. Were philosophers either very much more or much less conceptually confused, what theses count as philosophically controversial might be different.

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[7] This might be rejected by someone who accepts a view according to which a statement S is true only if there is a proof of S.

A group of logically infallible and conceptually omniscient entities would plausibly find many of the debates of actual philosophers to be without substance. If there is a successful *a priori* argument for or against a given thesis, a logically infallible and conceptually omniscient entity would, given enough time, be able to determine the truth of the thesis with absolutely impunity. Perhaps for such a being some philosophical theses which are debated by actual philosophers would be seen as either explicitly contradictory or tautological.

Of course, one might challenge the idea that philosophy is concerned purely with what can be known *a priori*, by citing, for instance Quine's (1951) challenge to the analytic-synthetic distinction or Kripke's (1980) claim that some necessary truths can only be known *a posteriori*. We can add to this that from its beginnings down to the present, philosophy has been informed and challenged by the science (or what we would retroactively call science) of the day. For some recent examples, the advent of the Special and General Theories of Relativity have influenced how philosophers conceive of time, and the development of quantum mechanics has influenced how philosophers think about the nature of objects and of causation.[8]

I take no position here on whether and to what extent philosophy is a purely *a priori* discipline. Actual philosophers are in fact influenced by scientific developments, and actual philosophers engage in *a priori* reasoning to a significant degree. Perhaps we could try to isolate a purely *a priori* component of philosophical practice, which we could uphold as *pure philosophy*, and a component of philosophical practice that is not, properly speaking, part of philosophy itself. But I will not attempt to do that here.

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[8] A good source on this is Maudlin (2011).

Even if philosophy as we practice it is not purely *a priori*, however, logically infallible and conceptually omniscient entities could still plausibly reject many of our philosophical debates as being without substance. Given enough time, such entities could ascertain all the *a priori* knowable facts. As a consequence, they could determine for any given thesis whether or not its truth or falsity could be discovered *a priori*, as well as determine what implications any empirical discoveries may have for the truth of the thesis. Thus, such entities could clearly distinguish what is *a priori* discoverable and what is either *a posteriori* discoverable or not discoverable at all, and would deem everything of the former as not philosophically controversial, and the latter as outside the scope of philosophy.[9]

Hence, it seems that what theses count as philosophically controversial is relative to context, and that, perhaps dishearteningly, logically infallible and conceptually omniscient entities would not have much use for (at least some of) philosophy. It is enough for our purposes, however, if we can capture what makes a thesis philosophically controversial for us. That is what I have tried to do.

Any viable account of philosophical substance ought to yield the result that a debate can be philosophically substantive only if the theses which are the subject of debate are themselves philosophically substantive. Thus, we can assume that our argument (1S-3S) for the conclusion that the debate over presentism, eternalism, and no-futurism is not substantive is valid. The important question, then, is whether our arguments for the conclusions that presentism (1P-5P),

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[9] Powers (2012) distinguishes between what he calls rationality 1 and rationality 2. It is rational to believe something on some evidence in the sense of rationality 1 just in case a reasonable person free from any conceptual confusion would believe it on that evidence. It is rational to believe something on some evidence in the sense of rationality 2 just in case a reasonable person with some conceptual confusion would believe it on this evidence. I am claiming that much of the reason philosophical debates are substantive is because actual philosophers are only rational 2.

eternalism (1E-5P), and no-futurism (1NF-5NF) are not substantive philosophical theses are sound.

In fact these arguments are not valid as stated. In order to be made valid they require an additional premise:

> There is no other way to understand presentism/eternalism/no-futurism which is unambiguous, neither obviously true nor obviously false, and distinctive of what presentists/eternalists/no-futurists believe.

In the chapters to follow I will consider a number of attempts to show that the debate over presentism and eternalism is indeed substantive. Each of these proposals is effectively an attempt to show that this hidden premise is false and hence that our original argument is unsound.

At this point I would like to offer an initial defense of this hidden premise. Any proposal for understanding presentism (or eternalism) as a substantive thesis must satisfy either one of two conditions. First, it could consist in a different way of understanding *everything exists at the present time* without any additional theses. Second, it could combine the original thesis with some addition. Neither option looks promising.

The idea that we can understand presentism other than as originally stated, so that it does not turn out to be ambiguous between a thesis which is not distinctive of presentism and one which is not philosophically controversial, is problematic. For this other thesis, whatever it is, has to be sufficiently close to our original formulation in order to be properly considered a statement of *presentism* (or eternalism). We might then worry that any alternative thesis, if it is similar enough to the original to be considered a statement of *presentism* (or eternalism), will turn out to be ambiguous in the same or a similar way.

Secondly, it will arguably not help us to understand presentism as a substantive thesis by adding to it some additional clause. Either we are able to understand presentism as a substantive thesis without this clause, or the additional clause is necessary to understand presentism as a substantive thesis. If we can understand presentism substantively without the clause, then the clause is irrelevant for that purpose. If the clause is required to understand presentism as a substantive thesis, then it is really the additional clause, and not presentism itself, which is substantive.

That suffices as an initial defense of the hidden premise. Whether that premise is in fact true is one of the major questions of this dissertation. If it is true, then our original argument for the conclusion that the debate over presentism and eternalism is not substantive is valid. Since all the premises at least appear to be true, it is apparently sound.

1.2 Clarifying Remarks

Having rehearsed the main line of argument for the conclusion that presentism and eternalism are not substantive, opposed metaphysical theses, I want to make some clarifying remarks on the definition of presentism. This will help to clarify what the debate, if there is a substantive debate, does and does not concern. First, I comment on the meaning of 'thing' and 'exists' in the thesis that everything exists at the present time; second, I comment on the meaning of 'the present time'.

1.2.1 The Meaning of 'Thing' and 'Exists'

Here I want to comment on the meaning of 'thing' and 'exists' in the definition of presentism: everything exists at the present time. It would be better if, instead of 'thing', we said

object, state of affairs, or event.

Instead, of 'exists' it would be better if we said

exists, obtains, or occurs.

Thus, a better statement of presentism than the one given at the beginning of this chapter is:

> Every object, state of affairs, or event which exists, obtains, or occurs, exists, obtains, or is occurring at the present time.

Or, equivalently:

> Every object that exists, exists at the present time; every state of affairs which obtains, obtains at the present time; and, every event which occurs, is occurring at the present time.

That is, presentism should be understood as a thesis not just about *objects*, but also *properties*, *states of affairs*, and *events*. By a state of affairs, I mean any particular group of objects standing in some relation to one another and a time or times, together with any properties or relations exhibited by those objects at all of those times. By an event I mean any particular, non-relational change[10] in an object. Each state of affairs or event is *particular* as opposed to universal: no state of affairs or event can obtain or occur more than once.

The reason we want presentism to be a thesis about objects, states of affairs, and events is that if the thesis that everything exists at the present time is taken to be a thesis specifically about objects, then certain conceptions of what counts as an object will entail the truth of this thesis in a different way than the presentist intends.

Suppose that presentism is understood as the thesis that every *object* exists at the present time, where this is meant to exclude states of affairs and events. Consider a theory according to which the only objects are *everlasting*, *indivisible*, *Democritean atoms*, which we can call *simples*.

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[10] When Theaetetus grows taller than Socrates he changes non-relationally. When Socrates goes from being taller to being shorter than Theaetetus, Socrates only changes relationally. The distinction between a relational and a non-relational change is worked out in Lombard (1978).

These simples always exist, and no group of simples ever compose another object, no matter how they might be arranged. If presentism is the view that every object exists at the present time, then this view entails that presentism is true. For, according to this view, the only objects there ever were or will be are simples, and all of them exist at the present time.

This conception of an object is admittedly contrary to our everyday use. But a philosopher might come to accept it. First, this philosopher might, for whatever reason, come to believe that the universe contains indivisible particles which cannot be further subdivided, and which can be neither created nor destroyed (with the possible exception of the creation and destruction of the whole universe, if the universe has a beginning or an end). That is, the universe contains simples. Second, this philosopher might, for whatever reason,[11] come to accept *compositional nihilism*: no group of objects ever compose another object. These are both substantive positions a philosopher could adopt. If he did, then restricting the application of the word 'object' to such simples would make sense. Such a person could then reasonably claim that the thesis that every object which ever did exist or ever will exist, exists at the present time, is true.

Or suppose a philosopher accepts the existence of such simples but also believes in composite objects, such that each composite object is identified with the *mereological sum* of its parts, where the mereological sum of a group of objects exists regardless of the arrangement of those objects. On this view, a given composite object exists just in case all its parts do, regardless of how they are arranged and what relations holds between them. Since the ultimate parts out of

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[11] Perhaps he is convinced by the arguments given by Unger (1979), Van Inwagen (1990), or Merricks (2001). Van Inwagen does not quite accept unqualified compositional nihilism, since he claims that *organisms* exist. For his part, Merricks thinks *persons* exist.

which everything is composed are eternal, every single object exists eternally. Thus, every object which ever did exist, or ever will exist, exists at the present time.

Consequently, we see that there are theories of objects which entail the truth of the thesis that every object which ever did or ever will exist, exists at the present time. Yet these theories of object are both controversial, and presentism *qua presentism* should not rely on any particular theory of the nature of objects. On the first theory there are no composite objects, but presentism *qua presentism* ought not to involve any outright rejection of the idea that shoes and ships and sealing wax and cabbages and kings are all *things*.

On the second theory there are composite objects, but the way composite objects are understood is inconsistent with our everyday conceptions. On our everyday conception of composite objects, the arrangement of an object's parts matter: rearrange the parts in the right way, and the object will be destroyed. Also, it is part of our ordinary conception of an object that a composite object can change at least some of its parts. This is not possible if a composite object just *is* the sum of its parts. Some philosophers might accept such a view of composite objects. However, surely presentism *qua presentism* should not presuppose any particular conception of the nature of composite objects.

I propose that presentism *qua presentism* should not depend on any substantive conception of what counts as an object. In order to ensure this, I will presume throughout the dissertation that presentism is understood as a thesis about objects, states of affairs, and events without restriction. For on a theory according to which the only objects are simples, if the arrangements of those simples changes then there will be multiple, non-simultaneous *states of affairs*, and hence the thesis that every state of affairs which ever did or will obtain, obtains at the present time comes out as obviously false. In this way, we avoid making presentism true for the wrong reason.

1.2.2 What is it for a Time to be Present?

I have formulated presentism as the view that everything that exists, exists at the present time. But what is it for a time to be *present*? Since the beginning of the twentieth century[12] there has been a debate between advocates of the *tensed* and *tenseless* theories of time, and the proponents of those two views give different answers to this question.

According to the tenseless theory of time, the facts about time consist in what states of affairs obtain and what events are occurring at each moment, such changeless temporal relations as *earlier than*, *later than*, and *simultaneous with* which hold between states of affairs, events, and times, and whatever is reducible to these. According to the tensed theory of time, there is a further fact – namely, the fact that some time is uniquely present – which is not reducible to anything countenanced on the tenseless theory, and a still further fact – namely, the fact that which time is present changes. Thus, according to the tensed theory of time, each state of affairs, event, and moment successively comes to have and then ceases to have the feature *being present*.

By contrast, according to the tenseless theory of time, there is no metaphysical fact picking out some time as objectively present. Rather, the purpose of indicating "the present time" in an utterance is to pick out, depending on context, the moment of time that is simultaneous with, occurs during, or contains said utterance. If someone speaking in the year 2016 mentions "the present

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[12] The explicit distinction between the tensed and tenseless theories of time has its origin in McTaggart's (1908) argument for the conclusion that time is unreal. Basically, McTaggart argues that time requires objective tense, and objective tense is contradictory. Advocates of the tensed theory agree that time requires objective tense but deny that this is genuinely contradictory, and advocates of the tenseless theory deny that time requires objective tense. However, philosophers before the twentieth century had made claims about time which we would now recognize as expressing the tensed or the tenseless theory. For instance, in Plato's *Timaeus* (37d) we find: "Now the nature of the ideal being was everlasting, but to bestow this attribute in its fullness upon a creature was impossible. Wherefore he resolved to have a moving image of eternity, and when he set in order the heaven, he made this image eternal but moving according to number, while eternity itself rests in unity, and this image we call time" (Plato and Jowett 1961, 1167). This passage is clearly suggestive of the tensed theory.

year," she is indicating the year 2016, and not ascribing to it any special metaphysical feature, *being present*. Objectively there is no fact as to which time, what states of affairs, and what events are *present*. Rather, there are facts as to which states of affairs and events are *simultaneous*. Thus, on the tensed theory of time, for a time to be *present* is for it to have some objective feature which uniquely distinguishes it from other times. On the tenseless theory of time, there is no objective feature which makes a time present, but to assert that something is present is to assert it is simultaneous with that utterance.

I stated presentism as the view that everything that ever exists, exists at the present time, rather than as the view that everything is present. The claim that "Everything is present" is superficially similar to a claim like "Everything is material," making the word 'present' appear to function as a 1-place predicate. This might be taken to indicate that the word 'present' expresses a property, *being present*, and thus presuppose the tensed theory of time. However, I would like to remain neutral as to whether the tensed or tenseless theory of time is correct. Thus, instead of saying that some object is present, I will say it exists at the present time, and leave the phrase 'the present time' to be understood neutrally between the tensed and tenseless theories. It may turn out that presentism, if it is a substantive thesis, presupposes either the tensed or tenseless theory of time. We cannot presuppose this ahead of time, however.

Note that, for the purposes of our discussion, the word 'present' will serve to distinguish things in time, creating a demarcation between those things which exist at the present time and those things, if there are any, which do not. I stress this point because there are other, non-equivalent uses of 'present' in the history of philosophy. The medieval philosopher Boethius (1957), for instance, claims that God observes everything from a *timeless present*. That sense of 'present' is not relevant here. After all, assuming there were and will be times other than this one,

then from a timeless perspective there is nothing to uniquely pick out any one time from all the others, and hence if things at any time exist from this timeless present, things that exist (or did or will exist) at all times do as well.

1.3   Why Should We Care Whether the Debate is Substantive?

Previously I gave a line of argument for the conclusion that the debate over presentism and eternalism is not substantive. The stated goal of this dissertation is to discover whether or not there is a way of making sense of presentism and eternalism as substantive, opposed philosophical theses, and thus either of vindicating or refuting this line of argument. One might inquire: why should we care whether presentism and eternalism are substantive, opposed philosophical thesis? I will give two answers to this question. One of these answers will be from the perspective of metaphysics, and the metaphysics of time in particular. The other answer will be from the perspective of metaphilosophy.

Metaphysics is that part of philosophy concerned with what the world is like, fundamentally. If we want to discover what the world is like, fundamentally, it would be good to know what our options are. If presentism and eternalism are substantive metaphysical theses, then they constitute different views as to what sorts of things exist. If they are not substantive, opposed metaphysical theses, then they do not really constitute different views as to what sorts of things exist. In the former case, one task of the metaphysician will be to decide between these two views. In the latter case, since there is nothing to decide, the metaphysician can safely move on to other topics.

Since the apparent point of disagreement between presentists and eternalists concerns the existence of things which merely did exist in the past and merely will exist in the future, we may suspect that if the disagreement is substantive, presentism and eternalism will offer us two

alternative ways to think about time. If correct, this means the status of the debate is important not just for metaphysics, but for the metaphysical interpretation of physics, or at least that part of physics which is concerned with time. Consider, for instance, the fact that pervasive empirical evidence has led many to accept that at least on the large scale our world is described by the General Theory of Relativity, but that accepting the General Theory of Relativity seems to require accepting significant revisions to our ordinary conception of time. In order to understand a revisionary theory of F, we must begin with a non-revisionary conception of F and arrive at the revisionary theory through a process of amendments and alterations. After all, from the mere assertion that x is a theory of F we cannot know if x is a theory of that which we already designate by 'F' or a theory of something else called by the same name, unless the conceptual connection between the revisionary and non-revisionary theory is laid out. If presentism and eternalism are, at least initially, conceived within the pre-relativistic framework involved in our ordinary conceptions of time, and they are substantive opposed theses, then they provide two bases from which to try to understand relativity.

Whether presentism and eternalism are substantive, opposed philosophical theses is also worth answering from the perspective of metaphilosophy. Metaphilosophy is that part of philosophy concerned with philosophy itself. What is philosophy and how does it proceed? While we are explicitly working to see if and how we can understand presentism and eternalism as substantive, opposed philosophical theses, lurking in the background is the question of how we can tell in general whether a thesis or debate is philosophically substantive. If we can establish with confidence that a given debate is or is not philosophically substantive, we will then be in a position to ask whether the procedure we used to do so can be generalized and applied to other

philosophical debates. I will not attempt to do so explicitly in this dissertation, but I thought it worth making the metaphilosophical relevance of this investigation explicit.

I turn next to outline the plan for the rest of the dissertation.

1.4 A Plan for Examining the Presentism-Eternalism Question

The main question I take up in this dissertation is whether presentism and eternalism are substantive, opposed philosophical theses. While some philosophers contend that the debate is substantive, a powerful case has been made that it is not, as we have seen. We could resolve the puzzle about whether the debate is substantive in either of two ways. First, we could show that there is a way of understanding presentism and eternalism as substantive, opposed philosophical theses. This would require showing that our previous arguments for the conclusions that presentism and eternalism are not substantive philosophical theses are fallacious. Second, we could show that the debate is not substantive by showing that all formulations of presentism and eternalism in fact fall to these arguments, or variants thereof.

The way I will approach trying to see if we can understand the debate over presentism and eternalism as substantive is to consider various proposals for understanding presentism as a substantive philosophical thesis. Either I will find a way to do this or I will not. If I find a way to understand presentism as a substantive philosophical thesis, then I should be in a position to understand eternalism as a substantive philosophical thesis as well, and to show where the arguments for the conclusions that they are not really substantive philosophical theses go wrong.

Alternatively, it may turn out that each proposal I consider for how to understand presentism and eternalism substantively fails. Since the number of ways one might try to formulate presentism as a substantive thesis may be quite large (in principle infinite), we cannot expect to refute all possible formulations. If, upon considering several proposals I cannot find a way to make

sense of presentism and eternalism as substantive, opposed theses, I will take that as constituting powerful *inductive* evidence that our earlier argument for the conclusion that the debate over presentism and eternalism is not substantive is *deductively valid*. From the process of considering the various proposals which have been offered for making sense of the debate, I will hopefully be in a position to explain why some philosophers genuinely think the debate is substantive, even though they are wrong.

It will be instructive to give a simplified example of this strategy at work. Suppose someone does not think the following question is philosophically substantive:

For any set of objects, is there another object which has those objects as its parts?[13]

For example, is the Andromeda galaxy an object, and is there an object whose parts are the Eiffel Tower and my left arm? But we need to get a clearer picture of what we are supposing.

Imagine first that a person who says that whether or not there are such objects is a matter of convention. We can choose to say such objects exist, and we can choose to say they do not, as Putnam (2004) thinks. This by itself does not show that the person thinks the question is not substantive. She might think the question is substantive, while also thinking that there is no *single, objectively correct answer*. This will be because she understands why reasonable persons would be inclined to say there are such objects, and also why reasonable persons would be inclined to think that there are not. So, let us imagine further that this person does not understand why anyone would think there *could be* an objective answer to the question.

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[13] It may seem that this is trivially satisfied if there is a single object, the cosmos, which has everything else as its parts. But this is not so. For even if there is such an object, it does not follow that each subset of these parts also composes an object. For comparison, one may think that all the parts of my body compose by body, but that my left arm and my do not compose anything.

Adopting our strategy, we would proceed by trying to explicate the question in a way which the person does think is substantive. We might, for instance, present various principles of composition, and discuss possible counter-examples to them. Van Inwagen's (1990) *Material Beings* would be a useful guide here, as would Merrick's (2001) *Objects and Persons*, and Unger's (1979) article "There are No Ordinary Things." If we can show that some principles of composition fail, perhaps we can get our imaginary philosopher to see that there must be objective standards for which objects compose another object and which do not. Or, alternatively, we might find that any standard of composition will work as good as any other for capturing the metaphysical facts. In that case, we may be inclined to agree that the question is not philosophically substantive.

As indicated earlier, ultimately I come down on the side of those who think that presentism and eternalism are substantive, opposed philosophical theses. As we shall see, however, I think the attempts to establish this thesis offered in the literature are inadequate. When I examine these other proposals, I will not presuppose that presentism and eternalism are indeed substantive, opposed philosophical theses, but evaluate them from the perspective of the skeptic. When I first encountered these proposals I did so believing that the skeptic was correct. I would like for the reader to feel the force of the skeptical position just as I did. Ideally, through my discussions of different proposals for how to understand presentism in the literature I will convince my reader that the skeptic is correct and the debate is not substantive. Afterwards, when I make my own proposal for how to understand presentism as a substantive thesis, I will convince even the skeptic that presentism and eternalism are substantive after all.

1.5   Concluding Remarks and an Outline of the Rest of the Dissertation

In this chapter I have introduced presentism and eternalism, and explained why some philosophers do not think the debate over presentism and eternalism is substantive. My main task

in this dissertation is to either show how to understand presentism and eternalism substantively, or to explain why some philosophers mistakenly think the debate is substantive.

In chapter 2 I will look at several proposals in the literature for how to understand presentism as a substantive metaphysical thesis. These include the proposals that 'exits' in the definition of presentism should be understood tenselessly, that existence should just be identified with being present, that presentism should be understood as a thesis about what is real, that presentism and eternalism should be understood as theses about class membership, and the proposal that presentists are *serious tensers*. I will argue that all of these proposals fail to help us understand presentism as a substantive metaphysical thesis.

In chapter 3, I will develop an argument for the conclusion that the debate over presentism and eternalism must be substantive that is based on the fact that in the literature it is claimed that presentists and eternalists disagree as to what kind of formal language is best used to describe reality. I consider three formal languages, one which quantifies over objects existing at all times, with a distinct domain of quantification for each time, one language with a single domain of quantification for things at all times, and one language which quantifies over objects just as the present time, using tense operators to express facts about what was and what will be the case. It you adopt either of the first two languages, you seem to take on existential commitment just to things existing at the present time. If you adopt the third formal language, you seem to take on existential commitment to things existing at all times. I argue that the skeptic will respond that this disagreement in ontological commitment is merely apparent, and hence that something further must be done to establish that the debate is substantive.

In chapter 4, I consider whether we can make sense of the debate over presentism and eternalism by comparing it to the debate over modal actualism and modal possibilism. I argue that

the supposed analogy between these debates falls apart on inspection. There may be important similiarties between these views, but if we do not already understand presentism and eternalism as substantive theses, looking to actualism and possibilism will not help us.

In chapter 5, I consider whether the thesis that everything exists at the present time entails serious presentism, the view that only things existing at the present time can exemplify properties or stand in relations. If it does, this would show that the thesis that everything exists at the present time must be substantive after all. I consider various arguments for the conclusion that presentism entails serious presentism, and I argue that they are not convincing. I briefly consider and reject trying to understand presentism as the thesis that everything that ever did or will exist, exists at the present time, but some statement apparently about the past and future are still true. I reject this proposal as being without support in the literature.

In chapter 6, I develop a distinction between two ways of asserting that something is the case with respect to a time, which I call the distinction between what is the case *as of* a time and what is the case *at* a time. I sketch the semantics of a temporal logic incorporating this distinction, and use it to give formulations of presentism and eternalism (and no-futurism) which I take to be substantive.

In chapter 7, I develop a pair of theses about the nature of space which I claim are analogous to presentism and eternalism, as I think those views should be understood. Using this analogy I argue for the conclusion that presentism and eternalism, so understood, are indeed substantive, philosophical theses. Using the distinction between what is the case *as of* a time and *at* a time, developed in chapter 6, I rebut the argument for the conclusion that presentism and eternalism are not substantive, opposed philosophical theses given and defended in chapter 1.

CHAPTER 2. SOME ATTEMPTS TO SHOW THAT PRESENTISM IS A SUBSTANTIVE METAPHYSICAL THESIS

In chapter 1, I argued for the conclusions that presentism and eternalism are not substantive theses, and that the debate over presentism and eternalism is not substantive. I take these arguments to constitute a powerful initial case in favor of the skeptic. Philosophers who think the debate is substantive are in principle obliged to respond. In this chapter and several to follow, I will consider various ways in which someone might try to do this.

In this chapter, I am going to consider five different strategies for understanding presentism as a substantive philosophical thesis. The first is to let 'exists' as it appears in the definition of presentism be understood *tenselessly*. The second is Tallant's (2014) proposal that *existence* is the same as *being present*. The third is to formulate presentism in terms of what is *real*. The fourth is to formulate presentism and eternalism as theses about class membership. The fifth is Zimmerman's (1998) proposal that presentists are "serious tensers". I will argue that each of these proposals is inadequate.

2.1 Formulating Presentism with 'Exists' Tenseless

An English sentence containing the word 'are', 'is', or 'exists' unmodified by a tensed auxiliary verb like 'did' or 'will', is typically understood to be present-tensed and hence to indicate what exists or is the case *now*. Thus, a person who says "There are over seven billion people on the earth" would typically be understood as saying that there are over seven billion people on the earth *now*.[14] Consequently, if we are following the standard grammatical conventions of English, the statement,

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[14] Such observations inspired A.N. Prior (1957) to advocate what he called the *redundancy theory* of the present, according to which any statement "P" is equivalent to "It is now the case that P." Later, Prior (1968) realized that

> Everything exists at the present time,

would be interpreted so that 'exists' is present-tensed, and hence as the trivial assertion that

> Everything that now exists, exists at the present time.

Thus, presentism would be something of a grammatical truth of ordinary English.

Recognizing this, Bourne (2006) claims that the word 'exists' in the definition of presentism must be understood tenselessly, writing:

> The existential quantifier should be read tenselessly and need not be read any other way. It should be read tenselessly in order for presentists to be saying something non-trivial: if 'exists' means 'presently exists', then to say that only those objects which exist are those that presently exist is to spout an uninteresting truism. A tenseless reading is the only way of giving us common ground between the two sides of the debate. (Bourne, A Future for Presentism 2006, 10)

The idea here seems to be something like this. In chapter 1, I gave an argument for the conclusion that presentism is not a substantive metaphysical thesis. According to premise 1P of that argument, presentism must either mean "Everything that exists now, exists at the present time" or "Everything that ever did or will exist, exists at the present time." But this presupposes that 'exists' in the definition of presentism is *tensed*. Perhaps we can find an alternative way of understanding presentism by understanding 'exists' *tenselessly*. Moreover, one might think that if the extension of 'exists' is not restricted to present things as a matter of grammar, as it is if 'exists' is in the present-tense, then presentism cannot be a trivial thesis, but will be true or false depending on the

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'now' cannot be eliminated from statements in which it appears within the scope of other tense-indicators without loss of meaning. However, Prior insists that such statements can be rephrased so as not to include 'now'. I discuss this further in a later footnote.

metaphysical facts.[15] Of course, to assess this proposal we will have to see what it mean to understand 'exists' tenselessly. Let us consider some possibilities.

English is a tensed language. This means that, at least typically, if not always,[16] the form of the verb in an English sentence expresses temporal information: compare the form of the verb in a present-tensed sentence like "John *walks*" or "Dogs *exist*," to that in a past-tensed sentence like "John *walked*" or "Dinosaurs *existed*," and finally to that in a future-tensed sentence like "John *will walk*," or "Martian outposts *will exist*." As a consequence, the meaning expressed by a particular tokening of a tensed sentence depends both upon the content of the sentence, especially its grammatical form, and the time of the tokening. This is why the weatherperson's pronouncement of "It will snow tonight and all day tomorrow" will be more exciting to a school-aged child on Sunday night than Friday night.

This suggests that a tenseless verb is one in which the grammatical form of the verb does not contribute temporal information to sentences containing it. So, if the verb in "Paul the pot is blue" is tenseless, then the speaker intends either to express that Paul is blue at all times, or that at some time or other Paul is blue. Thus, if 'is' is tenseless, then "Paul the pot is blue" tells us nothing about *when* Paul is blue. This information would need to be contributed through content, as in "Paul the pot is blue in February of 2017."

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[15] The proposal that 'exists' in the definition of presentism is to be understood tenselessly is also criticized by Lombard (2010) and Meyer (2013) . Their criticisms are similar to mine.

[16] Whether English contains tenseless locutions is a subject of debate among philosophers. Smart (2008) cites "two plus two equals four" as a quintessential example of a tenseless locution in English. However, Chisholm and Zimmerman (1997) argue that there is no strong reason against interpreting this statement as present-tensed. We might even have occasion to use the past-tensed form of this statement: "Suppose that Hegel made egregious mathematical errors, and that a latter-day Hegelian were trying to excuse him by pointing out that he was educated in the 18th century. It would be natural enough to reply: "Well, two and two made four then, just as they do now!" (Chisholm and Zimmerman 1997, 263).

If a tenseless reading of a verb is to be understood as in the previous paragraph, so that it expresses either that something is the case at some time or other, or that something is the case at all times,[17] then tenseless statements must contain implicit or explicit quantification over times. Taking the verb 'is blue' to be tenseless, the statement "Paul the pot is blue" could be used to express either that Paul is blue at some time or other, or that Paul is blue at all times.

In the first case we have:

∃t(at t (Paul the pot is blue)). [18]

Here, '∃t' is a quantifier ranging over times, which we can call a *temporal quantifier*. 'Paul is blue' predicates *blueness* of Paul, and 'at t' is an operator assigning *Paul's being blue* to the time bound by the previous temporal quantifier, t. Hence, this says that there is some time t, such Paul is blue *then*.

In the second case, in which "Paul the pot is blue" is used to express that Paul is blue at all times, we have:

∀t (at t (Paul the pot is blue)).

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[17] Perhaps an exception would be tenseless statements about what is the case outside of time, like "All forms participate in the form of the Good." Since we are not considering such statements I will put this aside.

[18] I write "At t (Paul the pot is Blue)" rather than "Paul the pot is blue at t" because the latter may be misread as "Paul is blue-at-t," where 'blue-at-t' expresses a relational property, being blue relative to t. I rather want to say that t is the time during which Paul exhibits the non-relational property *being blue*. In other words, 'at t' modifies not the property but the *instantiation* of the property (Johnston 1987). It is sometimes thought that presentism and eternalism have implications for the problem of temporary intrinsics (that is, the problem of how things can change with respect to their intrinsic or non-relational properties). For instance, Merricks (1995) argues that eternalism entails perdurantism (the view that physical objects have temporal parts like they have spatial parts) and presentism entails endurantism (the views that physical objects do not have temporal parts, but each physical object wholly exists at each moment it exists). Lombard (1999) argues that presentism is consistent with the existence of perduring entities. Craig (1998) and Fiocco (2010) claim that the problem of temporary intrinsics does not even arise for presentism, Francesscotti (2008) that the problem does arise, and Lombard (2006) that the problem of temporary intrinsics is itself based on a fallacy. Endurantism, perdurantism, and the problem of temporary intrinsics are much discussed topics in the philosophy of time which I cannot hope to do justice to here. Moreover, it would be hasty to make any claims about the relation of presentism and eternalism to these views without first having found a substantive construal of presentism and eternalism, if there is such.

Here 'at t' functions as an operator assigning *being blue* to Paul the pot at all times. Thus, for any time t, at t, Paul the pot is blue.

Let us consider tenseless assertions involving existence, like "Dinosaurs exist" and "Paul exists and is blue." Both of these could be used to express either of two claims. "Dinosaurs exist," could be used to assert either that dinosaurs exist at some time, or that dinosaurs exist at all times. "Paul exits and is blue," could be used to assert either that Paul exists and is blue at some time, or that Paul exists and is blue at all times.

The statements "Dinosaurs exist at some time" and "Paul exists and is blue at some time" can each be represented in either of two ways, depending on the scope of the existential quantifier.[19] One way we can represent "Dinosaurs exist at some time" is as follows:

∃t (at t (∃x(x is a dinosaur))).

That is, *there is some time t, such that at t there exists some dinosaur*. Here, 'at t' is an operator assigning

∃x(x is a dinosaur)

to the time bound by the previous temporal quantifier, '∃t'.

The statement "Paul exists and is blue at some time" could similarly be represented as

∃t (at t (∃x(x=Paul & x is blue))).

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[19] Eric Hiddleston advised investigating this scope distinction. While I had been aware of it, it did not appear explicitly in early drafts of the dissertation.

That is, *there is some time t, such that at t there is something, Paul, which is blue*. On this approach, since the existential quantifier is within the scope of 'at t', the quantifier ranges just over those things which exist at time t.[20]

The second way to represent "Dinosaurs exist at some time" is like this:

∃x(x is a dinosaur & ∃t(at t (x exists))).

That is, *there is something, a dinosaur, and there is a time t such that at t, it exists*. Here, the operator 'at' assigns

x exists

to the time bound by the previous temporal quantifier.

"Paul exists and is blue at some time" could be represented similarly like so:

∃x(x=Paul & ∃t(at t(x exists & x is blue))).

That is, *there is something, Paul, and there is a time t such that at t, Paul exists and is blue*. On this approach, the existential quantifier ranges over things independently of the time at which they exist.

Next, consider "Dinosaurs exist at all times" and "Paul exists and is blue at all times." Giving the existential quantifier small scope, "Dinosaurs exist at all times" would be represented with

∀t (at t (∃x(x is a dinosaur))).

That is, *for any time t, at t, there exists some dinosaur*. "Paul exists and is blue at all times" can similarly be represented, giving the existential quantifier small scope, as

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[20] What about things that exist outside of time, if any? Should we have a special *timeless* quantifier, especially for them? If not, we could let each temporal quantifier range over both objects which exist at that time and outside of time. I do not think it makes a difference which option we pick, so long as we are consistent.

∀t(at t(∃x(x=Paul & x is blue))).

That is, *for any time t, at t there is something, Paul, and it is blue*.

Can we represent these statements while giving the existential quantifier large scope? We can with "Paul exists and is blue at all times," like so:

∃x(x=Paul & ∀t(at t(x exists & x is blue))).

That is, *there is something, Paul, and for all times, it exists and is blue*. We cannot, however, represent "Dinosaurs exist at all times" while giving the existential quantifier large scope without changing the meaning of the sentence. For consider the result when we try:

∃x(x is a dinosaur & ∀t(at t(x exists))).

That is, *there is some dinosaur, and for any time t, it exists at t*. This says that some particular dinosaur exists at all times. We might be tempted to replace the existential quantifier with a universal quantifier, giving us a statement about all dinosaurs as opposed to a statement about some particular dinosaur. This will not work either, however, for the result is:

∀x(x is a dinosaur & ∀t(at t (x exists))).

That is, *every dinosaur is such that for any time t, it exists at t*. That is, every dinosaur exists at all times.

What happens when we formulate the definition of presentism so that 'exists' is understood tenselessly, on this construal? If 'exists' in the definition of presentism is tenseless, then if we stick to the analysis just proposed, 'exists' either ranges over things which exist at some time or other, or 'exists' ranges over things no matter what time they exist. Suppose that the range of the temporal quantifier is all times. In that case, presentism could be represented in either of two ways. First, giving the universal quantifier small scope, it can be represented like so:

∀t (at t (∀x ∃t`(t` is the present time & at t` (∃y(y=x))))).

That is, *for any time t, for everything that exists at t, that thing also exists at the present time*.

Second, giving the universal quantifier large scope, it can be represented like so:

∀x ∀t((at t (x exists)) → ∃t`(t` is the present time & at t` (∃y(y=x)))).

That is, *for anything, for any time t, if x exists at t then there is a time t` such that t` is the present time and x is identical to something existing at t`*. On both formulations, this is just a tenseless statement of the obvious falsehood that *everything that ever exists, exists at the present time*.

Wuthrich (2012) objects to this way of rejecting tenseless formulations of presentism, arguing that to infer from the claim that *everything exists at the present time*, where 'exists' is tenseless, to the claim that *everything that ever exists, exists at the present time* presumes that the tenseless 'exists' entails the existence of things that exist at times other than the present time, which is precisely what the presentist denies. But how else should the tenseless 'exists' be understood?

On the only other way of understanding a tenseless usage of 'exists' that we have yet identified, to say that something exists tenselessly is to assert that it exists at *some* time or other. Suppose the range of the temporal quantifier is some time. In that case, presentism could be represented in either of two ways. First, giving the universal quantifier small scope, it can be represented like so:

∃t (at t (∀x (∃t`(t` is the present time & at t` (∃y(x=y)))))).

That is, *there is some time t, such that everything that exists at t, exists at the present time*. Second, giving the universal quantifier large scope, it can be represented as follows:

∀x ∃t((at t (x exists)) → ∃t`(t` is the present time & at t`(∃y(y=x)))).

That is, *for everything, there is a time t such that if something exists at t, then there is a time t` such that t` is the present time and it is identical to something which exists at t`*. On either reading,

in other words, whatever exists at a certain time exists at the present time. There is indeed a time t such that everything that exists at t, exists at the present time; specifically, the present time itself. This is just a tenseless statement of the triviality that *everything that exists now, exists at the present time*.

By insisting that 'exists' as it appears in the definition of presentism is tenseless, we managed to escape the objection that presentism is ambiguous as to tense. We have not yet, however, managed to escape the objection that it is either trivially true or obviously false. Indeed, this objection simply reappears in another form. On a straightforward analysis of what it is for a verb to be tenseless, if presentism is understood so that the word 'exists' in the definition is understood tenselessly, presentism is either the trivial truth that everything which exists at the present time exists at the present time, or the obvious falsehood that everything which exists at any time exists at the present time.

How else might we understand the claim that 'exists' in the definition of presentism is tenseless? Szabo (2006) claims that presentism should be understood as the thesis that "Everything is present" (Szabo 2006, 400), where 'is' means the same as 'is' except that the tense is un-interpreted. It would seem, however, that if the tense is un-interpreted then the whole sentence would lack determinant meaning.[21] Unfortunately, Szabo does not elaborate on how we are supposed to understand this proposal.

Hestevold and Carter define presentism as the view that "Necessarily, if X existsS, then X presently exists" (Hestevold and Carter 2002, 499) (S. H. Hestevold 2008), where "existsS" abbreviates "exists simpliciter," which is defined as follows:

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[21] This point is due to Lawrence Lombard.

X exists simpliciter, if and only if, x is among the things that the universe includes – if and only if X is real. That X exists simpliciter does not alone imply that X did exist, that X presently exists, nor that X will exist. (Hestevold and Carter 2002, 499)

Putting aside the word 'real', which I will comment on later, this is similar to the proposal offered

by Torrengo (2012).

Torrengo writes:

Tenseless notions come in two varieties: those that contain an *explicit* temporal reference to a time…, and those that do not contain any reference to a time at all, which I call *simple* notions. The notion of simple existence is tenseless in this second sense. (Torrengo 2012, 127)

According to Torrengo, the presentist and eternalist disagree as to what exists *simply*:

This is the proposal. Although the notion of simple existence does not contain any temporal reference, it is conceptually possible that what exists *simpliciter* varies over time, namely that a claim containing an attribution of simple existence be a tensed claim. If we understand such a use of "existence," it becomes clear where the disagreement between the two parties lies. Presentists think that what exists *simpliciter* changes over time (because for them, only what is present exists *simpliciter*), whereas eternalists think that it does not (because for them, all past and future entities exist *simpliciter* as well). (Torrengo 2012, 127)

Does this help us? I do not think so.

It is not clear to me that Torrengo's simple existence is a coherent notion. It is supposed to

be conceivable that what exists *simpliciter* varies over time. I do not know how to express the fact

that what exists varies over time unless I can specify *when* things exist. The notion of simple

existence, however, is supposed to be free from any temporal reference. Let us nonetheless

consider this kind of proposal further.

In both of the following statements:

∃t (at t (∃x(x is a dinosaur)))

and

∃x ∃t (at t (x exists)),

the quantifier '∃x' considered by itself *does not* imply that some dinosaur did exist, presently exists, or will exist. In sort, the quantifier lacks temporal reference. Temporal information is contributed by the temporal quantifier '∃t' and the operator 'at t'. It would thus seem that our previous treatment of the tenseless 'exists' in fact meets the requirements of *existence simpliciter*.

Perhaps not only 'exists' but the whole sentence is supposed to lack reference to time, so that presentism is the thesis that

Everything that exists *without respect to when it exists*, exists at the present time.

I do not know how to understand this thesis unless it is used to express the same thesis as expressed by

Everything that ever did exist or ever will exist, exists at the present time.

which is obviously false.[22]

Presumably, the idea is that there is a sense of 'exists' that is *temporally neutral*: it does not necessarily apply to everything which ever did or will exist, but it does not, as a matter of meaning, apply only to what exists at some particular time. Unfortunately, this just brings us back to my original objection to the notion of simple existence. We are presuming that the presentist does not think that everything which ever did exist or ever will exist, exists at the present time. Hence, the presentist thinks there used to exist things which do not exist now. The presentist therefore needs to be able to distinguish between what exists, what did exist, and what will exist. If the sense of 'exists' used in the definition of presentism really has no implications at all for *when* things exist, it will be impossible to express this distinction.

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[22] Lombard (2010) points out further that if this is taken to be the case about all times, as presumably it should, presentism so defined implies that the very same things exist at all times.

An alternative way of understanding a tenseless sense of 'exists' could be that it indicates what exists from a *timeless perspective*. As I pointed out in the first chapter, however, from a timeless perspective either no temporal things exist, or things existing at all times exist. No particular time can have a privileged position from outside of time. Consequently, the only facts about a given time t which hold outside of time, if any, are those facts which hold about t at any time. But any time whatsoever is present when it is present, and there is no single time which is present at every time. Hence, from a timeless perspective, *being present* does not uniquely pick out any time at all. If the tenseless 'exists' means 'exists from a timeless perspective', then what exists tenselessly is everything that ever exists. This would make eternalism seem obviously true.

Using the results of this section we could recast premise 1P from the argument for the conclusion that presentism is not a substantive metaphysical thesis as follows:

1P*   Presentism, the thesis that *everything exists at the present time*, is ambiguous. It could mean either of the following two tensed statements:

(i) *Everything that exists now exists at the present time*.

(ii) *Everything that ever did, does, or will exist, exists at the present time*.

Or, it could mean any of the following tenseless statements:

(iii) *Everything that exists at some time or other exists at the present time*.

(iv) *Everything that exists at any time exists at the present time*.

(v) *Everything that exists, where 'exists' is temporally neutral, exists at the present time*.

(vi) *Everything that exists from a timeless perspective exists at the present time*.

The skeptic will claim that each of these either makes presentism into a trivial truth ((i), (iii)), an obvious falsehood ((ii), (iv), (vi)), or is too unclear to be helpful ((v)).

There may be some other way of understanding a tenseless usage of 'exists', perhaps one which lets us understand presentism as a substantive thesis. Unfortunately, those philosophers who make this proposal do very little to explain how we are supposed to understand this tenseless usage of 'exists', and how it helps us make sense of presentism as a substantive thesis. An initially compelling argument has been given for the conclusion that presentism is not a substantive thesis. An adequate response requires more detail than simply asserting that 'exists' is to be understood in a special way.

2.2   Identifying Existing with Being Present

Impressed by arguments for the conclusion that presentism is not a substantive thesis, Tallant (2014) takes up the challenge of how to formulate the view. In order to escape the skeptical line of argument, Tallant proposes what he calls 'Existence presentism,' or EP,

EP: Presence is existence (Tallant 2014, 494),[23]

where 'Presence' is the name for the property of being present. Tallant says EP is tensed but not trivial:

> EP expresses a tensed sentence. To bring this out, we might say 'Presence is *now* the very same thing as existence'. That this sentence is explicitly present-tensed brings out the fact that we may define EP using tensed sentences. But, notice, this is *not* trivial. 'Presence is existence' is an identity claim. And it is not an identity claim with which the eternalist can agree. Consider, by way of example, the Battle of Hastings. If presence is existence then by simply existing the Battle of Hastings is present. The Battle of Hastings is not present and so eternalists cannot endorse EP. (Tallant 2014, 494)

Later on Tallant says that if we are reluctant to treat existence as a property, existence presentism could alternatively be formulated as the view that existence and presentness are identical

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[23] Prior (1972) similarly says that for an event to occur is just for the event to be present, but it is unclear if Prior is claiming that occurrence/existence is the same thing as being present, or just that they have the same extension.

ontological categories. I will focus on the first formulation of existence presentism in my

discussion, but what I say could be applied to the category interpretation just as well.

What should we say about Tallant's proposal? One issue is that it entails that nothing can

exist outside of time. Tallant's response is to simply deny that it makes sense to say that something

exists outside of time:

> Suppose we say, then, that 'abstract objects exist$_n$ outside time'. Of course, to exist$_n$ is to
> exist now and to 'exist outside time' *is not* to *exist now*. This statement simply makes no
> sense. (Tallant 2014, 499)

Tallant just begs the question here: of course we cannot coherently say there are timeless things

using 'exist$_n$', which by definition can apply only to present (and hence timely) things. But we

should want to know whether *existence* is just what is denoted by 'exist$_n$'.

Lombard (2010) argues that in worlds in which there are times, everything exists in time:

> If the sentence 'the number seven exists but does not exist now' expresses a proposition at
> all, then it expresses a proposition that we know a priori to be false. The proposition, if
> any, that it expresses is not a contradiction, for there are, I suppose, possible worlds in
> which there are no times. But in any possible world in which it does express a proposition,
> the word 'now' would have to have a referent; and in any such world the proposition
> expressed would be false. (Lombard 2010, 59)

If this is right, it may seem to mean that it is not a problem for Tallant's proposal that it implies

that nothing exists outside of time. However, Lombard only claims that *if* time exists everything

exists in time. Tallant's proposal has the stronger consequence that everything *necessarily* exists

in time. In other words, a timeless world is impossible. In any case, is Lombard right?

I do not find Lombard's argument convincing. The statement

The number seven exists outside of time but does not exist now

is not contradictory, as Lombard concedes. Why should the assumption that 'now' has a referent make it false? Indeed, on each occasion of use 'now' does have a referent. Consider an occasion in which the referent is a time *t*. Is the statement,

The number seven exists outside of time but does not exist at t,

false? I do not know why we should think so, unless we assume that the statement,

The number seven does not exist at t,

entails that a token of the statement,

The number seven does not exist

uttered at t is true.

There is a fallacious reason one might think that such an entailment does hold. For suppose we agree that the number seven does not exist at t, that is

∃t at t (~∃x(x=7)).

It may seem that, if a statement of the form

∃t at t(P)

is true, then a token of

P

uttered at time t is true. If this is generally correct, then if now is the time t, we can infer

~∃x(x=7)

from the assertion that the number seven does not exist at t.

The required principle is clearly false, however, for things which exist outside of time. Likewise, if anything exists outside of time, then to say "x exists" at a given time t does not automatically entail that x exists *at t*. In any case, my primary objection to Tallant's proposal is not based on the fact that existence presentism entails that nothing exists outside of time.

While it is a substantive consequence of presentism, on Tallant's proposal, that it implies that, necessarily, nothing exists outside of time, this does not constitute a straightforward *defeater* for the view. For even if it is conceivable that something exists outside of time, it is not so obviously correct that something exists outside of time that a metaphysical thesis which denies this can for that reason by rejected. The bigger problem with Tallant's proposal is that on inspection, except for the additional thesis that necessarily nothing exists outside of time, existence presentism does not really escape the argument for the conclusion that presentism is not a substantive thesis.

Tallant's response to the skeptical challenge from chapter 1 is that the statement

Presence is *now* the very same thing as existence

is not ambiguous as to tense, yet philosophically controversial. According to eternalism, the Battle of Hastings exists (or better, *occurs*), but it is not present now. Thus, the eternalist must reject the central thesis of existence presentism.

I think Tallant's existence presentism appears to escape the dilemma only thanks to a misleading formulation. I do not understand the claim that

Presence is existence

unless what this means is that

To be present[24] is to exist.

This is multiply ambiguous.

First, it is ambiguous as to whether 'to be present' is to be understood as either

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[24] I note that the locution 'to be present' in English has two readings. On one reading, it means "to be or take place at the present time." On the other reading, it means "to be here," or "to be in attendance." Here the first reading is intended. My thanks to Ljiljana Progovac for reminding me of this dual meaning.

To be present now

or

To be present, to have been present, or to be going to be present.[25]

Second, it is ambiguous as to whether 'to exist' is to be understood as either

To exist now

or

To have existed, to exist now, or to be going to exist.[26]

This yields a total of four readings, two of which are trivially true and two of which are obviously false.

The trivially true readings are:

To be present now is to exist now

and

To be present, to have been present, or to be going to be present is to have existed, to exist now, or to be going to exist.

The obviously false readings are:

To be present now is to have existed, to exist now, or to be going to exist.,

and

To be present, to have been present, or to be going to be present is to exist now.

None of these readings makes existence presentism into a substantive metaphysical thesis. Tallant has seemed to avoid the problem by nominalizing 'to be present' and 'to exist'. The tense of 'is' in the definition of existence presentism is not relevant to the problem.

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[25] Or, *to be present now, to have been present, and to be going to be present*. I put this reading aside.

[26] A third reading is that it means *to have existed, to exist now, and to be going to exist*. I put this reading aside.

Surely the existence presentist thinks the Battle of Hastings *did* exist. Thus, the existence presentist must not only think that *presence is existence*, but that

Prior presence is prior existence.

Surely the eternalist does not think the Battle of Hastings exists *now*, but rather *in the past*, and that when the Battle of Hastings existed, it was present. Thus, it is not clear that there really is a substantive disagreement between the eternalist and the existence presentist, other than the latter's insistence that nothing exists outside of time.

2.3   Formulating Presentism using 'Real'

We noted above that Hestevold and Carter (2002) attempt to formulate presentism in terms of what 'exists simpliciter', which they define using the word 'real'. Substituting 'real' for 'exists simpliciter' they formulate presentism as the view that

Necessarily, if X is real, then S presently exists.

Hestevold and Carter do not say much to explain why they use the word 'real' in their formulations of presentism. Nor are they explicit regarding whether or not this terminological choice is meant to have any significance at all.[27] It will nonetheless be worthwhile to briefly consider whether progress can be made understanding presentism as a substantive thesis if it is stated in terms of what is real.

Zimmerman (1998) also formulates presentism using the word 'real', writing:

[T]here is only one largest class of real things, and this class contains nothing that lies wholly in the past or future (Zimmerman 1998, 210).

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[27] Zimmerman (1998) offers some commentary on his formulation of presentism, which I take up in section 2.5. However, he does not elaborate on the use of the word 'real'.

We should note that Zimmerman formulates his proposal in terms of class membership, whereas Hestevold and Carter do not. I will take up the proposal that presentism be understood as a thesis about class membership in the next section. Here I focus on trying to understand presentism as a thesis about what is *real*.

Let presentism be the thesis that

Everything that is real exists at the present time.

The skeptic might argue that this is ambiguous. It could mean that

Everything that is now real exists at the present time,

or that

Everything that ever is, was, or will be real exists at the present time.

I presume here that presentists think Plato and dinosaurs were real, and hence reject the latter statement. Does the former statement help us understand presentism as a substantive thesis? Looking at this statement, my initial reaction is to count it as trivial. I suppose, however, that an eternalist might claim that things which do not *exist* at the present time are nonetheless *real* at the present time, and the presentist could deny this.

Does this help us understand presentism and eternalism as substantive, opposed theses? To answer this question, we must consider what it means to say that something is *real*.

The word 'real' has, I think, different senses. What we might call the *adjectival* or *kind-indicating* sense of 'real' appears in a statement like "That is/is not a real plant." Although the word 'real' function as an adjective in this statement, it does not modify the noun as would a typical adjective. In "That is an aquatic plant" and "That is a yellow plant," the adjectives 'aquatic' and 'yellow', respectively, indicate the *kind* of plant it is. If I assert that something is *not* an aquatic plant, I may be asserting either that it is not a plant, or that it is a plant but it is not aquatic. On the

other hand, if I assert that something is not a real plant, I mean that it is not a plant at all. It is not as if there are two classes of plants, those that are real and those that are not, like the classification of plants into those that grow on land and those that grow in water. Thus, to say that something is not a real plant is just to say it is not a plant at all, though perhaps it may *appear* somewhat like a plant: it is a floral facsimile. Likewise, to say something is a real plant is to say it is a plant. It is not to say that it is a particular kind of plant, the real kind.

A second sense of 'real' can be found in statements like "Barack Obama is real" and "Horses are real," on the one hand, and "Bilbo Baggins is not real" and "Unicorns are not real," on the other. If I say "Unicorns are not real," I do not intend to express that unicorns are such that they lack the property of *being real*, as I would intend to express that cats lack the property *being reptiles* with the statement "Cats are not reptiles."

If "Unicorns are not real" had a meaning analogous to "Cats are not reptiles," it would have the logical form "For everything, if that thing is a unicorn then it is not real," that is:

$\forall x(x$ is a unicorn $\rightarrow \sim x$ is real).

This statement would hence be true because nothing satisfies the antecedent. But then,

$\forall x(x$ is a unicorn $\rightarrow x$ is real),

that is, "Unicorns are real," would be true for the same reason. But obviously this latter statement is false. The statement "Unicorns are not real" really means "There are no unicorns" (for the moment I set aside the question of what the tense of 'are' is). That is

$\sim \exists x(x$ is a unicorn).

This might be called the existential use of 'real'.

Is there any way of determining, in any arbitrary case, whether a given use of 'real' is adjectival or existential? It is not immediately clear what criteria we might use. As examples of

the adjectival use we have both "Sam is not a real plant" and "Sam is not real," and as examples of the existential use we have both "Sherlock Holmes is not a real person" and "Sherlock Homes is not real." The two sets of examples are, at least on the surface, parallel.

On reflection, it seems that the best way to tell in a given case whether 'real' is being used adjectivally or existentially, is to determine whether the clause containing 'real' is intended to be a referring expression, by which I mean an expression which introduces some external object. Examples of referring expressions include statements containing proper names, used not as short for descriptions, but to introduce their bearers, such as "Obama is our most recent competent President," and statements containing demonstratives, like "That painting is exquisite." A statement is not a referring expression if, for instance, its grammatical subject is a description such that the statement will be meaningful even if nothing satisfies it.

If a clause containing 'real' is intended as a referring expression, then 'real' is likely to be adjectival. For if a phrase is used as a referring expression, the existence of an indicated object is presupposed. Thus, to indicate that said object exists would be redundant, and to deny this would be incoherent. Hence, "Sam is not real," where 'Sam' is the name of a certain plant, would be adjectival, and short for "Sam is not a real plant."

If a clause containing 'real' is not a referring expression, on the other hand, then 'real' is likely to be existential. If someone says "Barack Obama is real," and intends 'real' to be used in the existential sense, it is reasonable to suppose that she is making this assertion in a context where the existence of the 44th President of the United States is in question. In such a context, 'Barack Obama' cannot function primarily to introduce that person, but must instead to stand for a description which is meant to apply to such a person if he exists.

Consider the proposal that presentism be understood as the thesis that, with the exception of things existing outside of time, if any:

Everything that is real exists at the present time.

Either 'real' here is being used in the existential sense or the adjectival or kind-indicating sense. If 'real' is being used in the existential sense, this amounts to the thesis

Everything that exists satisfies the description *x exists at the present time*.

This does nothing to improve on our original formulation of presentism.

If 'real' is being used in the adjectival or kind-indicating sense, this amounts to the thesis that

Out of everything that exists (or did exit or will exist?), only things which exist at the present time are members of a certain category of things.

I am not sure what category of things which might be. The category of *existing things* immediately suggests itself, but that takes us back to the existential use of 'real', which, as we already saw, does not help us understand presentism as a substantive thesis.

Someone might insist that, though Aristotle clearly does not exist now, perhaps it is debatable whether he is *real* now. Lombard (2010), claims everything that ever did, does, or will exist is equally real, writing:

> Clinton and Aristotle are, in some sense equally real. It is not as if Aristotle, having lived and died many centuries ago now has some sort of shadowy existence, one that is less substantial than the existence that Clinton now has… There aren't two, or three, kinds of existence for contingent things—past existence, present existence, and, perhaps, future existence—which are such that objects that possess one of them, present existence, are "more real" than objects that possess the others". (Lombard 2010, 54)

The idea seems to be that if Aristotle and Clinton are not equally real, the one must be *less real* than the other. Plato famously claims that physical things are less real than Forms,[28] but Lombard and I both agree that the idea that *reality* comes in degrees makes no sense.

The idea that things which merely did or merely will exist are as equally real as things which exist at the present time warrants further discussion. We can consistently deny that Aristotle is as real as Clinton without implying that reality comes in degrees. We need only assert that (now) Aristotle is not real at all. This may strike someone as wrong, but why?

Perhaps what is going on here is this. We want to draw a distinction between what exists now and what does not. We also want to draw a distinction between what is fictional and what is not.[29] The word 'real' can play a role in both distinctions. Consider the question: "Is Aristotle Real?" Suppose we answer affirmatively. This could be taken as meaning that Aristotle exists. Since 'exists' in English is typically present-tensed this could be taken to mean that Aristotle exists now, which is false. Suppose instead that we answer negatively. This could be taken as meaning Aristotle is a work of fiction, perhaps dreamed up by some long-forgotten student in Plato's academy. This could then be taken to mean that Aristotle never did exist, which is false, or that Aristotle existed and then became a fictional character, which is both false and bizarre.

This might help to explain why the question of whether or not things that did exist and will exist are real appears to be substantive, but it does not show that it in fact is substantive. We do not yet know how to understand that question clearly. Anyway, the solution to the puzzle is to

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[28] Why Plato thinks this is an interesting question for the history of philosophy, but I do not take it up here.

[29] We may note here that, though I do not accept it, one could have a view according to which fictional entities do exist, but are in some important way different than non-fictional entities. For instance, Kripke (2013) claims that fictional entities are abstract objects.

distinguish between 'real' as contrasts with 'exists', and 'real' as contrasts with 'fictional'. Aristotle is not real *now* in the sense that he does not exist now, but Aristotle is not now, nor was he ever, nor will he ever be, a work of fiction.

2.4   Presentism as a Thesis About Class Membership

As we saw earlier, Zimmerman (1998) formulates presentism as a thesis about class membership:

> [T]here is only one largest class of real things, and this class contains nothing that lies wholly in the past or future. (Zimmerman 1998, 210)

Lombard (2010) suggests that we might generate the appearance of an interesting thesis if we characterize presentism as a thesis about the largest class of real things. Specifically, we may suppose that the presentist adopts the following principle of class membership:

> If a class S exists at a time t, then everything that is a member of S exists at t. (Lombard 2010, 58)

Lombard goes on to claim that this principle is false, suggesting that it is being confused with a plausibly true *mereological* principle: no object can be a part of another object at a time if the former object does not exist at that time. The correct principle of class membership, Lombard suggests, is

> If a class *S* exists at a time *t*, then everything that is a member of *S* exists *at some time or other*. (Lombard 2010, 59)

If we adopt this principle and construe presentism as the thesis that the largest class of real things contains only what exists at the present time, then presentism turns out to be false.

Perhaps this is too fast, however. Is it really so obvious that the correct principle of class membership is

> If a class *S* exists at a time *t*, then everything that is a member of *S* exists *at some time or other* (Lombard 2010, 59),

and that no reasonable person could think the correct principle is in fact

> If a class S exists at a time t, then everything that is a member of S exists at t (Lombard 2010, 58)

instead? If there can be reasonable disagreement on this point, then perhaps we can understand presentism and eternalism as a substantive disagreement about the nature of class membership in general, or, more specifically, a disagreement about what is included in the class of real things.[30]

It seems to me, however, that neither of these can be *the* principle of class membership. Generally, for an arbitrary class *C*, the principle of class membership for *C* is expressed a sentence of the following form:

> $\forall x(x \in C$ just in case x is P).

It seems like some sentences of this form can be satisfied by an object x even at times when x does not exist, like:

> $\forall x(x \in C$ just in case x was, is now, or will be a philosopher).

By contrast, other sentences of this form can only be satisfied by an object x only at times when x exists, like

> $\forall x(x \in C$ just in case x is now a philosopher).

If this is correct, then for some classes, something x can be a member of that class at a time t only if x exists at t, and for other classes, something x can be a member of that class so long as x exists, did exist, or will exist (or exists outside of time).

Furthermore, if this is correct, and if we identify presentism with the thesis that for any class,

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[30] Lawrence Lombard suggested exploring this possibility.

x can be a member of that class at a time t only if x exists at t,

presentism comes out false. After all, there are some classes such that an object can be a member of that class at a time t even if that object does not exist at t. If we identify eternalism with the thesis that for any class,

x can be a member of that class at a time t so long as x exists at some time or other (or outside of time),

it too turns out false. After all, there are some classes such that an object can only be a member of that class at a time t if the object exists at t.

A similar observation applies to the claim that presentism and eternalism are thesis about what is included in the largest class of *real* things. Clearly the following sentence,

∀x(x ∈ C just in case x is real now),

can be satisfied by some object x at a time t only if x exists at that time. Just as clearly, the following sentence,

∀x(x ∈ C just in case x was, is now, or will be real),

can be satisfied by any object x which exists at some time or other. Presentism is obviously true on the first reading, and eternalism is obviously true on the second.

Of course, someone might insist that for some object x to be a member of an arbitrary class C at a time t, x must exist at t. Likewise, someone might insist that for some object x to be a member of an arbitrary class C at a time t, x need only exist at some time or other (or outside of time). However, it is not at all obvious what would motivate either of these two positions, except, in the first case, the belief that everything that exists, exists at the present time, and, in the second case, the belief that whatever did, does, or will exist, exists. Those theses, of course, are just what we are trying to understand.

2.5   Presentist as Serious Tenser

In the previous two sections I mentioned Zimmerman's (1998) statement of presentism:

[T]here is only one largest class of real things, and this class contains nothing that lies wholly in the past or future. (Zimmerman 1998, 210)

Zimmerman provides some explication for this statement which I had then set aside. At this point I want to take that explication up again. Zimmerman compares the presentist to what he calls a *serious tenser*:

Just as the serious tenser thinks there is, at bottom, only one kind of truth, and that is "truth-now"; so the presentist thinks there is only one largest class of real things, and this class contains nothing that lies wholly in the past or future. (Zimmerman 1998, 210)

What is a serious tenser?

Zimmerman says a serious tenser thinks the only kind of truth is "truth-now." What does this mean? Zimmerman writes:

The philosopher who takes a tensed approach to the bearers of truth regards each of them as making a claim about what is the case now. Of course some propositions are eternally true: in other words, there are propositions which, either necessarily, or as a matter of contingent fact, have always been true and will always be true. ... [H]istorical propositions expressed by tenseless statements, such as my utterance in a lecture of "Plato believes in universals", are examples of the latter sort. But the proponent of tensed truth-bearers will insist that the true proposition expressed is composed of tensed propositions; it's a disjunction of three propositions: Either Plato (now) believes in universals, or he did, or he will. This is a truth, but it's made out of three other propositions, only one of which is true, and each of which concerns what is now the case. (Zimmerman 1998, 209)

Does this help us understand presentism?

I find Zimmerman's proposal unclear. The word 'proposition' is often used by contemporary philosophers to indicate a non-linguistic entity, like an abstract state of affairs, that is expressed by a token of a declarative sentence, and which is the primary bearer of truth or falsity.

A proposition in this sense cannot *make a claim* about anything. Nor does a sentence make a claim about anything; rather, it is the speaker of a sentence which makes a claim.

What might Zimmerman have in mind? We can distinguish between what might be called the tenseless account and the tensed account of propositions. On the tenseless account, the proposition expressed by a declarative sentence-token uttered at a time t includes t as a constituent. On this view, a token of the Latin equivalent of "Caesar is crossing the Rubicon" uttered on January 10, 49 BCE expresses the proposition

On January 10, 49 BCE, Caesar crosses the Rubicon.

If this is true, as in fact it is, it is true at all times.

On the tensed account, the proposition expressed by a declarative sentence-token uttered at a time t does not include t as a constituent. On this view, a token of the Latin equivalent of "Caesar is crossing the Rubicon" uttered on January 10, 49 BCE expresses the proposition

Caesar crosses the Rubicon.

This is true on January 10, 49 BCE, but not at other times. Thus, on the tenseless account a proposition is true or false eternally, whereas according to the tensed account a proposition may be true in relation to some times and false in relation to others. I take it that when Zimmerman says propositions make a claim about what is the case now, he is endorsing the tensed account. When Zimmerman says that bearers of truth make a claim about what is the case now, he means when a given time t is present, what makes a sentence or proposition true (or false) is the way things are at t. This is because the token expressing the proposition is uttered at t, and not because t is part of the content of the proposition expressed.

Does this help us understand presentism? Not obviously. Consider a token of "everything exists at the present time" uttered when a certain time t is present. This token will be true or false

depending on the way things are when t is present. However, talk of the way things are when t is present is ambiguous. It could mean what objects exist, what states of affairs obtain, and what events are occurring when t is present. Alternatively, it could mean what objects ever did or will exist, what states of affairs ever did or will obtain, and what events ever did or will occur when t is present. In the first case, "everything exists at the present time" is trivially true, in the second case it is obviously false. Yet again, our original argument for the conclusion that presentism is not a substantive metaphysical thesis has reappeared.

2.6 Concluding Remarks

In this chapter I have considered several attempts in the literature to elucidate presentism as a substantive metaphysical thesis. I have argued that all of these fail. More specifically, for each proposal I have shown that the original dilemma from the first chapter, that presentism is either the trivial thesis that everything that exists now exists at the present time or the obviously false thesis that everything that ever did exist or ever will exist, exists at the present time, just reappears in a different guise. Thus, none of these attempts helps us to understand presentism as a substantive metaphysical thesis.

CHAPTER 3. AN ARGUMENT FOR THE CONCLUSION THAT THE DEBATE MUST BE SUBSTANTIVE

In chapter 2, I looked at a number of ways of trying to explicate presentism as a substantive metaphysical thesis and argued that none of them are successful. In this chapter, I want to develop an argument for the conclusion that the debate over presentism and eternalism must be substantive, and then offer a response to that argument on behalf of the skeptic. The basic thrust of this argument is that we can describe the world using different languages, such that it appears by adopting one of these languages as opposed to the others, one takes on distinctive ontological commitments. By adopting one of these languages, you apparently take on ontological commitment only to things that exist at the present time (or outside of time). By adopting either of the other two languages, you apparently take on ontological commitment to things existing at any time. I will argue that unless we already understand presentism as a substantive thesis, we ought to interpret these languages so that they do not really disagree about ontological commitment.

3.1   Language and Ontological Commitment

Here I want to develop an argument for the conclusion that, despite what our arguments from chapter 1 appear to show, the debate over presentism and eternalism must in fact be substantive. I believe this line of argument involves significant conceptual confusions, but I want to explicate it before criticizing it. Hence, in this section I present the argument as a proponent would.

Many philosophers contend that, if you think a statement is true and that the best analysis of that statement involves quantifying over a certain class of entities, you are committed to the existence of members of that class of entities. This contention about ontological commitment is

clearly expressed in Quine's (1948) assertion that we should think there exists whatever our best science, appropriately analyzed, says there is. The same assumption is explicit is Lewis's (1973) argument for the existence of possible worlds,[31] and presumed in Davidson's (2003) argument for the claim that there are actions.[32] However, there are different candidates for what kind of language to use to represent reality. It may seem that whether we are committed to the existence of things at times other than the present depends on what kind of language we adopt.

It has been claimed that eternalists will accept tenseless[33] claims like "A dinosaur exists at some time before this one," and "A dinosaur exists in the year 70 million BCE," and "A dinosaur exists in the past," while presentists will reject each of these statements as false and assert instead the tensed claim that "There was a dinosaur" (Rea 2006), (Sider 2006), (Szabo 2006), (Torrengo 2013), (Torrengo 2014). It is thought that the first three statements carry existential commitment to dinosaurs while the fourth does not. The basic idea here is that while presentists and eternalists both agree that dinosaurs do not exist *now* and agree that dinosaurs *did exist* in the past, eternalists think dinosaurs *exist* in the sense of being in the range of the existential quantifier, whereas presentists deny this.

Let us consider this claim more fully. Take the first three statements for consideration. We might take either of two approaches to symbolizing these statements. First, we have a single domain consisting of all the objects which ever did, do, or will exist. On this approach, the statement, "A dinosaur exists at some time before this one, would be symbolized as follows:

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[31] I discuss Lewis's view in chapter 4.

[32] Davidson notes that a statement like "Jones butters the toast and midnight with a knife" entails "Jones butters the toast at midnight," and "Jones butters the toast." But the latter statements do not follow from the former by principles of logic alone unless we interpret the first as quantifying over actions: "There is a buttering of toast, it occurs at midnight, and it is performed with a knife."

[33] These sentences are arguably grammatically incorrect if we assume 'exists' in English is always tensed.

∃x(x is a dinosaur & ∃t (t is before the present time & at t (x exists))).

That is, "There is something which is a dinosaur, and it exists at some time before the present."

The statement, "A dinosaur exists in the year 70 million BCE" would be represented as:

∃x(x is a dinosaur & ∃t(t=70 million BCE & at t (x exists))).

That, *there is something which is a dinosaur, and it exists in the year 70 million BCE*. Finally, "A dinosaur exists in the past," would be symbolized as:

∃x(x is a dinosaur & ∃t(t is past relative to now & at t (x exists))).

That is, *there is something which is a dinosaur, and it exists at some past time*. Let us call this the single domain approach.[34]

On the second approach, each time has its own associated domain of objects. On this approach, the statement, "A dinosaur exists at some time before this one," might be formally represented as follows:

∃t (t is before the present time & at t (∃x (x is a dinosaur))).[35]

That is, *there is a time t before the present time, and at t there is a dinosaur*. The statement "A dinosaur exists in the year 70 million BCE" would be represented:

∃t (at t ∃x(x is a dinosaur & t=70 million years BCE)).

That is, *there is a time, 70 million years ago, and at that time there is a dinosaur*. Finally, the statement "A dinosaur exists in the past" could be formally construed as

∃t (at t ∃x(x is a dinosaur & t is past relative to now).

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[34] If we do not want to use an existence predicate, these three statements could also be symbolized as follows. First, "∃x(x is a dinosaur & ∃t(t is before the present time & at t (∃y(y=x))))." Second, "∃x(x is a dinosaur & ∃t(t=70 million BCE & at t(∃y(y=x))))." Third, "∃x(x is a dinosaur & ∃t(t is past relative to now & at t (∃y(y=x))))."

[35] For information on how to read such symbolized statements, see chapter 2 section 2.1.

That is, *there is a time which is past relative to now, and at that time there is a dinosaur*. Let us call this the variable domain approach.[36]

On either approach, it may seem that we have quantification over things that exist solely at non-present times: dinosaurs. It is true that, on the variable domain approach, dinosaurs are not members of the domain of quantification assigned to the present time. Even so, they are still within *a* domain of quantification, and hence it seems that we have existential commitment to dinosaurs. Neither approach commits us to the claim that dinosaurs exist at the present time. Although on the single domain approach, dinosaurs are now within the domain of quantification, this is not to be understood as indicating that dinosaurs now *exist*. Clearly dinosaurs do not exist now, and the statements under consideration do not entail otherwise on either approach. For sake of convenience, let us call any formal language that involves quantification over things that exist now, did exist in the past, or will exist in the future, whether that involves a single domain of quantification for all things ever or a separate domain of quantification for each time, an *eternalist formal language*. We can thus distinguish between a single domain eternalist formal language and a variable domain eternalist formal language.

By contrast to these statements, consider "There was a dinosaur." On the kind of tense logic developed by Prior (1957), this would be represented by placing the quantifier within the scope of a past-tense operator, '***P***', which stands for "It was the case that…," that is,

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[36] Eric Hiddleston suggested distinguishing the single domain and variable domain approaches to representing such statements as "A dinosaur exists in the past." In multiple drafts of the dissertation I had only discussed the variable domain approach. In fact, however, I had been aware of both approaches during the early stages of writing the dissertation, and had originally put the single domain approach aside. I realized that if I adopted the single domain approach I would still need some way of asserting the time at which an object x exists, such as a temporally relativized existence predicate or a second, temporally relativized quantifier. Since the single domain of quantification would have to be partitioned anyways, I decided to put it aside and focus just on the variable domain approach. Hiddleston was right, however, that both approaches deserve discussion.

P ∃x(x is a dinosaur).

Prior (1962a) (1962b) claims that a quantifier within the scope of such a tense operator is not existentially committing, just as a person who sincerely utters "Sam believes that there are unicorns" need not thereby commit herself to belief in unicorns.

Since assertions about belief can be quite complicated and involve their own distinctive puzzles, I will instead use an analogy with modality and fiction. Someone who sincerely asserts "It could have been the case that there are unicorns," or "In mythology there are unicorns," need not thereby commit herself to belief in unicorns. In both cases the quantifier is within the scope of a special operator which makes it so that the existential quantifier fails to have ontological important. Letting '◇' be a modal operator meaning "It is possibly the case that…" and 'MYTH' be a myth-operator meaning "In mythology it is the case that…," we have

◇ ∃x(x is a unicorn)

and

MYTH ∃x(x is a unicorn).

Tense operators are similar to modal and myth operators in this respect. Thus, since the quantifier in

P ∃x(x are dinosaurs)

is in the scope of a temporal operator, one can sincerely assert "It was the case that there are dinosaurs" without committing oneself to the claim that dinosaurs *exist*. In statements about things which do not yet exist the quantifier will be placed within the scope of a future-tense operator '*F*' for "It will be the case that …" For convenience we can call any such formal language in which quantifiers binding variables assigned to things at past or future times are within the scope of past-tensed or future-tense operators a *presentist formal language*.

So then, the argument for the conclusion that the debate over presentism and eternalism must be substantive goes like this. We can describe the world using either of two eternalist formal languages or a presentist formal language. We take on certain ontological commitments depending on which of these languages we adopt. If we adopt an eternalist formal language, we must either say that dinosaurs exist at some time or other, or that dinosaurs never exist at all. If we adopt a presentist formal language, we must either say that dinosaurs exist now or that it was or will be the case that dinosaurs exist. Since we take on different ontological commitments depending on which kind of language we adopt, it is not the case that both an eternalist formal language and a presentist formal language can be used to correctly describe reality. It is thus a substantive question which kind of language we should adopt for the purpose of doing metaphysics. Consequently, it is a substantive metaphysical question whether presentism or eternalism is true.[37]

3.2   The Skeptic Responds

What should we say about this argument? One crucial assumption made by proponents of this line of argument is that if I have a choice of whether to adopt one of a group of formal languages, and I will take on different ontological commitments depending on which of those languages I adopt, then it is not the case that both languages can be used to represent reality accurately. This assumption is questionable. Compare a formal language in which there are singular terms for, and variables that are allowed to range over, composite entities, and a formal language in which there are singular terms for, and variables that are allowed to range over, only *simples*. Using the first language, we might let the value of two variables x and y be a cup and a table, and express that x is on top of y. Using the second language, we would assign variables to

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[37] Ludlow (1999) gives a book-length defense of presentism containing a version of this argument as a part.

the members of two sets of simples, indicate that the simples in each set stand in various relations to one another, and finally indicate that the simples in those sets stand in the sort of relation which we would normally describe as *this being on top of that*. Does one of these languages describe the situation more accurately *with respect to metaphysics*? This is a difficult question, [38] and important,[39] though we do not have space to address it here.

I want to attack the argument in a different way. Those philosophers who believe that presentism and eternalism are not substantive, opposed metaphysical theses will object that by adopting a presentist formal language or an eternalist formal language one is not actually choosing between two different ontologies. At least not in any metaphysically interesting way. Those who think the debate is not substantive will suggest that the choice of which of these formal languages to adopt is not in fact a choice between different metaphysical pictures of the world. Rather, it is a choice between different ways of *talking about* the facts. The question of whether to adopt a single domain eternalist formal language, a variable domain eternalist formal language, or a presentist formal language is no more metaphysically significant than the choice of whether to entertain a metaphysical thesis in English or Spanish.

Adopting the single domain eternalist formal language, you might assert,

∃x(x is a dinosaur & ∃t(t is past relative to now & at t (x exists))).

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[38] For a more in depth discussion of this kind of issue, see Lecture 1 of Putnam (2004), and Chalmers (2009b).

[39] For example, in *Material Beings*, Van Inwagen (1990) says that there are no ordinary objects (other than organisms). Instead of chairs, there are *simples-arranged-chair-wise*. We should note that, if it is *possible* for there to be composite objects then there must be some reading of "simples-arranged-F-wise" such that, if this description is true of some set of simples, then those simples indeed compose an F. If it is also the case that there can be simples-arranged-F-wise but no F, then 'simples-arranged-F-wise' must be an equivocal phrase. In order to make progress in this area, perhaps we ought to get clear on these different readings of 'simples-arranged-F-wise'.

That is, *there is something which is a dinosaur, and it exists in the past*. Adopting the variable domain eternalist formal language you might assert

∃t (at t ∃x(x is a dinosaur & t is past relative to now)).

That is, *in the past, there exists a dinosaur*. Finally, adopting the presentist formal language, you would instead assert

P ∃x(x are dinosaur).

That is, *it was the case that there is a dinosaur*. These, the skeptic avers, are just different ways of asserting the same fact: that some dinosaur existed at some time before the present.

Consider our presentist formal language. The skeptic will suggest we should interpret the quantifier, when not in the scope of a past or future-tensed operator, as the analogue of the present-tensed 'exists' of ordinary English (Meyer 2005). On this interpretation, to say that the presentist language is only existentially committed to things which exists at the present time, is just to say that it is only existentially committed to things which exist at the present time existing now. This is, of course, trivial. The fact that our presentist language is not ontologically committed to things that exist at non-present times is not really ontologically significant. It is the formal analogue of the fact that we do not *say* "dinosaurs exist" (noting that 'exists' is in the present-tense) but instead say "dinosaurs existed."

Consider, on the other hand, the variable domain eternalist formal language. The claim that one who seriously adopts this language is committed to the existence of things that exist at any time is misleading. What we should really say is that one who seriously adopts this language is committed to whatever exists, existed, or will exist at any particular time t, existing at t. Let us suppose this person asserts that dinosaurs exist at past times. The skeptic who thinks the debate

over presentism and eternalism is not substantive will insist that this is just another way of saying there that *were* dinosaurs.

Finally, consider the single domain eternalist formal language. The claim that one who seriously adopts this language is committed to the existence of things that exist at any time is likewise misleading. As with the variable domain eternalist formal language, the person who adopts this language is only committed to things existing at the times they did, do, or will. Of course, everything that ever did, does, or will exist is within a single domain of quantification, but why should we think this is of metaphysical significance? The skeptic will insist that the existential quantifier of the single domain eternalist formal language is just a formal analogue of "exists at some time or other."

In effect, the basic strategy used in chapter one to argue for the conclusions that presentism and eternalism are not substantive metaphysical theses applies here too. The presentist believes that everything exists at the present time whereas the eternalists believes that some things that exist at past or future times exist. Thus, it appears that presentists and eternalists disagree about what exists. This disagreement is resolved however, by specifying the tense on 'exists'. Here, in this chapter, we have an argument for the conclusion that presentists and eternalists must be disagreeing, because the eternalist adopts a formal language which quantifies over things existing at past and future times, whereas the presentist adopts a formal language which quantifies only over things existing at the present time (or outside of time). This apparent difference in ontological commitment is nullified, however, as soon as we specify the range of the quantifiers.

What initially appeared to be an ontological disagreement turns out to be a difference in choice about how to talk about when things exist. In the presentist formal language, we use a quantifier ranging over only things that exist at the present time, and utilize tense operators to talk

about things existing at other times. In the single domain eternalist formal language, we use a quantifier ranging over things existing at all times there ever were or will be, and we use an 'at' operator together with an existence predicate to indicate more specifically *when* something exists. In the variable domain eternalist formal language, we use a different quantifier for each time, using an 'at' operator to assign quantifiers to times.

3.3   Responses to the Skeptic

In the previous section I explained how the skeptic would respond to the claim that we have a choice of whether to adopt a single or variable domain eternalist language, or a presentist formal language, and that we take on differing existential commitments depending on which of these languages we adopt. In the following sub-sections I will consider various ways someone who thinks that the debate over presentism and eternalism is substantive might respond, and show why they are in adequate.

3.3.1   The Unrestricted Quantifier

Some philosophers have proposed that presentism and eternalism be understood as opposed theses about what is to be included in the range of the most unrestricted quantifier (Sider 1999) (Baron 2013b) (Baron 2014). On this proposal, eternalism is the thesis that everything that ever existed, exists now, or ever will exist is within the domain of such a quantifier. Thus, to make assertions just about present things one must place a restriction on this domain. Presentism, on this proposal, is the view that the unrestricted quantifier ranges just over things which exist at the present time (or outside of time).

If the single domain eternalist formal language and the presentist domain formal language genuinely utilize the same quantifier, as would be the case if this account of presentism and eternalism is correct, then it will genuinely be the case that by adopting one language or the other,

one takes on differing ontological commitments. The pertinent question, then, is this: is it really the case that the quantifier used in the single domain eternalist formal language and the quantifier used in the presentist formal language are the same? The skeptic will answer that it is not, or at least that we have no good reason to think it is.

To adequately respond to the skeptical argument for the conclusion that presentism and eternalism are not substantive, opposed philosophical theses, it is not enough to insist that the presentists and the eternalists agree on the meaning of the quantifier. One has instead to offer a positive interpretation of that quantifier on which presentism and eternalism come out as substantive metaphysical theses. Until such an interpretation of the quantifier is available, it is perfectly reasonable for the skeptic to insist that the eternalist formal language (whether the single domain or the variable domain version) and the presentist formal language are just different ways of asserting the same class of possible facts.

Consider the claim that the quantifier in both the single domain eternalist formal language and the presentist formal language is unrestricted. In what sense is the quantifier supposed to be unrestricted? If it is supposed to be unrestricted with respect to time, then its domain should include everything which ever did exist, does exist, or ever will exist. In that case, eternalism comes out as obviously true. Perhaps the quantifier is supposed to be unrestricted with respect to what exists? Well, do we mean that the quantifier is unrestricted with respect to what exists *now*, or unrestricted with respect to what did, does, or will ever exist? Presumably neither of these is meant, but then what is intended by the claim that the quantifier is unrestricted? The answer is not at all evident.

If the debate over presentism and eternalism is substantive, then there must be a single use of 'exists', or single interpretation of the quantifier, such that presentists and eternalists disagree as to what exists in this sense, or what is in the domain of this quantifier. However, to establish

that the debate is substantive, it is not enough to assert that there is such a use of 'exists' or such an interpretation of the quantifier. One must instead explain what that use of 'exists', or what that interpretation of the quantifier, is, and show that presentists and eternalists are both using it.

An analogy might help. Suppose that someone were to insist that it is a substantive philosophical question whether or not there are any married bachelors. Everyone he has consulted insists that there are no married bachelors, but he thinks there are, in fact, married bachelors. In some contexts, he admits, we use the word 'bachelor' so that it only applies to unmarried persons. This, he avers, reflects a restricted use of the term. Someone responds that he is just using the word 'bachelor' differently than those who believe there are no married bachelors. He retorts that there is a single, unrestricted use of the word 'bachelor', used by both parties to the dispute, and they disagree as to whether or not this predicate applies to any married persons. Until some positive construal of this use of 'bachelor' has been offered, we ought to assume that, despite what this person claims, he is indeed simply using 'bachelor' in an idiosyncratic way.

Likewise, until some positive construal of how 'exists', or the quantifier, is to be understood in the definitions of presentism and eternalism is available for consideration, we ought to assume that presentists and eternalists are just using the quantifier in different ways.

3.3.2 Primitive Tense Operators

Some philosophers claim that the tense operators utilized in a presentist formal language are primitive and unanalyzable (Sider 2006) (Szabo 2006) (Brogaard 2007) (Torrengo 2012). One might conclude from this that the kinds of facts expressible in a presentist formal language cannot be the same as the kinds of fact expressible in an eternalist formal language. For consider the sentence

P ∃x(x is a dinosaur).

That is, *it was the case that there is some dinosaur*. Suppose that this sentence expresses the same fact as the fact expressed by

∃x(x is a dinosaur & ∃t(t is past relative to now & at t (x exists))).

That is, *there is a dinosaur, and it exists in the past*. If this the case, it may seem that the past-tense operator '***P***' is not primitive and unanalyzable after all, contrary to our initial assumption.

Someone who argues in this way for the conclusion that presentist and eternalist formal languages cannot just be different ways of stating the same facts misunderstands what it means for a logical operator to be primitive and unanalyzable. A logical operator is primitive in a logical language just in case that operator cannot be defined by any other operators in the language. Any logical language with a finite number of logical symbols must have some symbols which are primitive in this sense, or else the analysis of its symbols will be fundamentally circular. For instance, we might define the universal quantifier '∀' by negation and the existential quantifier '∃', as follows

∀P = def. ~∃~P.

It would be circular to then define the existential quantifier in terms of the universal and negation, that is,

∃P = def. ~∀~P.

At least some of the tense operators in a presentist formal language will need to be primitive and unanalyzable in this sense.

It does not follow from the fact that '***P***' is primitive in this sense that a statement of the form

P P

cannot express the same fact as a sentence of the form

∃P ∃t(t is past relative to now & P at t).

This is not a case of giving an analysis of an operator within a single language, after all, but a case of translating between statements of different languages.

Moreover, there is a way to give a meaning to a primitive logical operator: we specify the way things must be in order for a sentence containing the operator to be true. Indeed, if it is not possible to give a meaning to a logical operator in this way, then it would seem that the operator is *meaningless*.[40]

This brings us to another way of stating the basic objection I have been trying to raise on behalf of the skeptic throughout this chapter. If statements in the presentist formal language containing tense operators are not meaningless, they must have some comprehensible interpretation. At least one candidate interpretation treats the following sentences as all expressing the same fact:

∃x(x is a dinosaur & ∃t(t is past relative to now & x exists at t)),

∃t (at t ∃x(x is a dinosaur & t is past relative to now)),

and

P ∃x(x are dinosaur).

If they do not express the same fact, those philosophers who contend the debate over presentism and eternalism is substantive in principle owe us an alternative interpretation of the third indented sentence so that it does not express the same fact as expressed by the first and second. It is not enough to insist that tense operators are primitive, or that the quantifier is the same in the first and third sentences.

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[40] Similarly, Fiocco (2007) criticizes versions of presentism utilizing primitive tense operators as lacking a metaphysical base.

3.4   Problem Cases for a Presentist Formal Language

Another way of responding to the skeptic would be to show that there are statements in one of the formal languages which cannot be translated into the others, and that the reason for this is that there are some conceivable facts which cannot be expressed in one of the languages. Hence, we have a genuine metaphysical disagreement.

In fact, some kinds of statement have been proposed as resisting formulation in a language with a quantifier ranging only over things existing at the present time, plus past and future tense operators. In the sections to follow I will consider the sort of statements that are thought to create problems for a presentist-friendly formal language, and argue that they do not, in fact, do so.

3.4.1   Cross-Temporal Relations

The first kind of statement that is supposed to resist formulation in a presentist-friendly formal language are statements expressing cross-temporal relations. Cross-temporal relations come in two varieties. The first are relations between different things exiting at different times, such as the relation expressed by the statement "Susie admires Plato." The second are relations between an object and itself at an earlier or later time, as in "John is better looking now than he was as a teenager."

Cross-temporal relations of the first kind Ciuni and Torrengo (2013) call *ontic* cross-temporal relations, where an ontic cross-temporal relation is "A relation between a presently existing entity and a non-presently existing entity." (Ciuni and Torrengo 2013, 213) Cross-temporal relations of the second Ciuni and Torrego call *factive* cross-temporal relation, where a factive cross-temporal relation is "A relation that is cross-temporal exemplified by it terms." (Ciuni and Torrengo 2013, 213) We can show that statements expressing ontic and factive cross-temporal relations can both be expressed using a presentist-friendly formal language.

Let us begin with the statement "Susie admires Plato." Since Plato no longer exists, any quantifier binding a variable taking Plato as a value must be within the scope of a past-tense operator. Assuming Susie does now exist, the quantifier ranging over her will not be within the scope of such an operator. This may seem to lead to a problem (Sider 1999) (Sider 2006) (Szabo 2006). If we parse "Susie admires Plato" like so

$\exists x(x=$Susie $\& \: P \: \exists y(y=$Plato $\& \: x$ admires $y)$,

the resulting sentence says that Susie admired Plato at a time long before she was born. The problem is that the predicate 'x admires y' appears within the scope of the operator ranging over Plato. If we remove the predicate from this position, we get

$\exists x(x=$Susie $\& \: P \: \exists y(y=$Plato$) \& \: x$ admires $y)$,

which is ungrammatical, as the rightmost instance of 'y' is free.

Some philosophers have been led to try to analyze such sentences so as to eliminate the relation (M. Davidson 2003) (T. M. Crisp 2005) (De Clercq 2006). This is not necessary. In fact, there is a way to represent cross-temporal relations within a presentist formal language. We can parse "Susie admires Plato" like so:

$\exists t($at $t \: \exists x(x=$Susie $\& \: P \: \exists y(y=$Plato $\& \: F \: \exists t`(t`=t \: \& $ at $t`(x$ admires $y))))$.

This says

> There is some time t, at t there is some x such that x is Susie and it was the case that there
> is some y such that y is Plato and it will be the case that there is some time t` such that t` is
> identical to t, and at t` x admires y.

Since in a presentist formal language a quantifier not in the scope of either '*P*' or '*F*' ranges over things existing at the present time (or outside of time), t is the present time. Since t` is stipulated to be the same time as t, the predicate 'x admires y' is assigned to the present time. Note

importantly that this sentence assigns the 2-place predicate 'x admires y' to the time t`. It does not assign the variable y to t`. Hence, while this says that Plato is admired at t`, it does not say that Plato exists at t`.

Alternatively, another way to symbolize statements expressing cross-temporal relations in our presentist formal language would be to introduce a new tense operator, '*N*', for "It is now the case that …" Any sentence within the scope of '*N*" is to be understood as a sentence about the present time, no matter what tense operators precede '*N*'. The '*N*' operator effectively makes whatever is within its scope exempt from all previous tense operators. Using this operator, we would symbolize "Susie admires Plato" as

∃x(x=Susie & *P* ∃y(y=Plato & *N* (x admires y))),

or, more simply, as

P ∃x(x=Plato & *N*(Susie admires x)).

Both of these say Susie exists at the present time, it was the case that Plato exists, and it is now the case that Susie admires Plato.[41] Note importantly that the former sentence assigns the 2-place predicate 'x admires y' to the present time, and not the variable y, and the latter sentence assigns the 2-place predicate 'Susie admires x' to the present time, and not the variable x. Hence, both entail that Plato is *admired* at the present time, but not that Plato *exists* at the present time.

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[41] Using '*N*' was the first solution that occurred to me for how to parse statements expressing cross-temporal relations. The other solution, involving reference to previously quantified times was inspired by Prior (1968). Prior notes that in a statement like "It will be the case that it is now the case that I am sitting down" (102) the word 'now' cannot be removed without altering the meaning of the sentence. However, Prior proposes that this sentence is equivalent in meaning to "It is now the case that for some proposition *p* which is true at one instant only, (i) it will be the case that [*p* and I am sitting], and (ii) it is now the case that *p*." (106), and that 'now' can be eliminated from this statement without loss of meaning. While Prior's use of 'proposition' is idiosyncratic, the basic proposal is straightforward, and we could easily replace "proposition which is true at one instant only" with "state of affairs which obtains at one instant only." I have chosen to first indicate the time at which x occurs or obtains, and then refer back to that time, thus, "It is t and it will be the case that it was the case that t and I am sitting," or "∃t *F P* ∃t`(t`=t & I am sitting)."

Those philosophers who have discussed this sort of problem will likely reject my solution on the grounds that it entails that objects which do not now exist can nonetheless now exhibit properties or stand in relations: Plato is admired by Susie *now*, despite not existing now. In fact, it is often assumed that presentism entails serious presentism, according to which only things existing at the present time (or outside of time) can exhibit properties or stand in relations. Thus, the serious presentist contends that only what exists at the present time (or, perhaps, outside of time) can be a subject of predication at the present time. If correct, this would imply that if 'Plato' in the foregoing statements in our presentist formal language is intended to refer to the historical philosopher, the presentist must denounce those statements as either false or meaningless.

If presentism is a substantive thesis, and if presentism entails serious presentism, then perhaps my construal of "Susie admires Plato" is not available to the presentist. At this juncture, however, our question is not whether the presentist can make sense of the claim that Susie admires Plato, but rather whether this statement can be expressed in a formal language in which quantifiers ranging over things existing at times other than the present are always within the scope of past-tense and future-tense operators. I have shown that they can be. If such statements are problematic, it is not a problem of logical form.

Consider next the statement "John is better looking now than as a teenager." This statement differs from the last insofar as it relates not two things that exist at different times, but a single thing as it is and was at different times. Brogaard (2006) (2013) suggests that such relations should be taken as primitive. Using "My daughter is now taller than my son was," as an example, Brogaard writes:

> Where the property of having been nice can be represented as λx(x has been nice), the tensed binary relation ascribed by 'My daughter is now taller than my son was' can be represented as λxλy(x is now taller than y was). The former reads: the property of being an

x such that x has been nice; the latter reads: the relation between x and y such that x is now taller than y was. (Brogaard 2006, 197)

That is, there are persons, my daughter and my son, such that there obtains between them the relation of the first being taller than the second was.

In fact, such cross-temporal relations can be analyzed in a presentist formal language without being taken as primitive. "John is better looking than he was as a teenager" could be symbolized as:

∃x ∃t(x=John & **P** ∃t`(at t` x is a teenager & **N** ((x at t) is better looking than (x at t`)))).

That is, "There is (now) a person, John, and a time t, such that there was a time t` such that John was a teenager at t`, and now, John at t is better looking than John at t`." It is worth commenting on the sentence "(x at t) is better looking than (x at t`)." This sentence is not to be read as meaning that that there are entities, *x at t* and *x at t`*, such that one is better looking than the other. Rather, it is to be read as saying x, given one set of circumstances (those that obtain when time t is present), is better looking than itself, under a different set of circumstances (those that obtain when time t` is present).

If the foregoing construal of "John is better looking than he was as teenager" seems odd, we could also construe this statement as involving quantification over physical appearances, in the sense of *the way someone or something appears*, as follows:

∃x ∃A ∃A`(x=John & A=a physical appearance & A`=another physical appearance & Ax

& **P** (A`x) & ∀y ∀z)((Ay & A`z) → y is better looking than z)

This says that there are two physical appearances, A and A`, such that John has A, it was the case that John had A`, and someone who has appearance A is better looking than someone who had appearance A`.

Finally, "My daughter is now taller than my son was" could be symbolized:

∃x ∃y(x=my daughter & y=my son & **P** ∃t**N**(x is taller than (y at t))).

As before, the sentence "x is taller than (y at t)" is not to be read as indicating that there is an entity *y at t*, such that x is taller than it. Rather, this says x is taller than y under a certain set of circumstances (those which obtained at time t). Alternatively, we could construe this using quantification over heights, as in

∃x ∃y ∃H ∃H`(x=my daughter & y=my son & H=a height & H`=another height & Hx & **P**(H`y) & H is larger than H`).

That is, *there are persons, my daughter and my son, and heights H and H`, such that my daughter has H, it was the case that my son had H`, and H is a larger height than H`.*

3.4.2 Plural Quantification Across Time

The second kind of statement that is thought to resist formulation in a presentist-friendly formal language are statements containing plural quantification across time. A statement contains plural quantification just in case it is used to assert that there are, were, or will be some plurality of things, like "Mars has two moons." A statement contains plural quantification across time just in case it is used to assert that there are, were, or will be a plurality of things, at least some of the members of which do or may exist, obtain, or occur at different times, like "There have been at least forty U.S. Presidents." Some statement containing plural quantification are ambiguous as to whether or not they contain plural quantification across time. Consider for example the statement "Jane has had three jobs," which does not by itself imply whether Jane had all or some of these jobs simultaneously or at different times.

The basic challenge is that in order to represent some statements involving plural quantification across time in a presentist-friendly formal language, we need to utilize primitive

span operators, and that such primitive span operators are unacceptable. Let us consider how the need for primitive span operators arises, and why they are thought to be problematic.

Consider the statement "There have been two kings named Charles" (Lewis 2004, 5) We cannot represent this statement with

P ∃x ∃y(x is a king named Charles & y is a king named Charles & x≠y),

since this says there were two kings named Charles simultaneously, which is not what we intended to assert with the original. Nor can we represent this as

P ∃x(x is a king named Charles) & *P* ∃y(y is a king named Charles),

since there is nothing here to indicate that x and y range over two distinct individuals.

Lewis suggests that this statement be represented using nested tense operators, writing:

> So we have this nested translation, which I believe conforms to presentist strictures: 'There have been two kings named Charles' means 'It has been that (there is a king named Charles and it has been that [there is another king named Charles]). (Lewis 2004, 6)

In the symbolism I have been using, this would be represented as

P ∃x(x is a king named Charles & *P* ∃y(y is a king named Charles & x≠y).

Here problems begin to arise.

The first issue Lewis raises is that we might want "There have been two kings named Charles" to be ambiguous as to whether there were two such kings simultaneously or at different times:

> It's a bit of good luck that kings persist through time, and that there are never two simultaneous ones. Else to say that there have been two kings named Charles, we'd require an extra disjunct to cover the case where there have been two, and they were instantaneous and simultaneous. (Lewis 2004, 6)

Lewis thinks we can represent such a sentence, though awkwardly:

A general translation of 'There have been two so-and-sos' should be: 'It has been that (there is a so-and-so, and either [there is another so-and-so or it has been that (there is another so-and-so)])'. (Lewis 2004, 6)

In our symbolism:

P ∃x(x is a king named Charles & (∃y(y is a king named Charles & x≠y) v *P* ∃y(y is a king named Charles & x≠y).

Though awkward, this is consistent with the requirements of our presentist-friendly formal language.[42]

In fact, using the '*N*" operator we can represent "There have been two kings named Charles" without relying on disjunction, like so:

P ∃x(x is a king named Charles & *N P* ∃y(y is a king named Charles & x≠y)).

Note that a statement of the form

P (P & *N P* P),

that is,

It was the case that: P and now it was the case that Q,

is consistent with but does not entail a statement of the form

P (P and Q),

that is,

It was the case that both P and Q.

Thus, the formula

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[42] Szabo (2006) objects that a statement like "There have been two kings named Charles" and "*P*∃x(x is a king named Charles & (∃y(y is a king named Charles & x≠y) v *P* ∃y(y is a king named Charles & x≠y)" vary too much in semantic form for the latter to be plausibly taken as given the meaning of the former. Since my claim is just that the fact expressed by a statement like "There have been two kings named Charles" can be expressed in a presentist-friendly language, I put this objection aside.

P ∃x(x is a king named Charles & *N P* ∃y(y is a king named Charles & x≠y)

is consistent with but does not entail that it was ever the case that there are two kings named

Charles simultaneously.

> Not all statements can be dealt with so easily, however. Lewis writes:

> Not all numbers are finite. If the hypothesis of two-way eternal recurrence is true, there have been infinitely many kings named John, and there will be infinitely many more of them…. The presentist, if he sticks to the brute-force method we've been considering so far, requires a construction with tense operators nested *ad infinitum*.
> Further, some plural quantifiers do not specify a number, and some specify a number only vaguely. There have been some kings named George, and indeed there have been several of them; though never has it been the case that there are several kings named George. (Lewis 2004, 6-7)

Lewis has identified two kinds of problem-cases worth considering: assertions involving infinite

quantification across time, like "There have been infinitely many kings named John," and

assertions involving vague quantification across time, like "There have been several kings named

George." Another kind of problem-case identified by Brogaard can be found in statement like

"When I was a child I was usually well-behaved" [43] (Brogaard 2007, 77).

Why are such statements thought to resist formulation in a presentist-friendly formal

language? A statement of the form "There have been n Fs" would be represented with a sentence

containing n existential quantifiers each within the scope of a past-tense operator, like so

P ∃x₁(x₁ is an F & … & *N P* ∃xₙ(xₙ is an F)…).

Sticking to this method, "There have been infinitely many kings named John" would, as Lewis

points out, be represented by an infinitely long sentence. We cannot represent either "When I was

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[43] Sider (2006) claims similarly that 'most' must be treated as a primitive quantifier, and statements expressing plural quantification across time containing 'most' cannot be represented with just the standard tense operators.

a child I was usually well behaved" or "There have been several kings named George" using this method at all, since there is no number n such that n is equal to 'several' or 'usually'.

In order to represents statements such as these, one may feel compelled to adopt a primitive span operator, '***HAS***', read "It has been the case that," such that

HAS (P & Q)

means it has been the case over a certain span of time that P and Q, without implying whether or not P and Q were ever the case simultaneously. Thus, "There have been infinitely many kings named John" might be represented

HAS(INFINITEx)(x is a king named John),

And "There have been several kings named George," as

HAS(SEVERALx)(x is a king named George).

Why are such span operators thought to be problematic?

Says Lewis:

> I object that span operators are so badly behaved that nobody should claim to have a primitive understanding of them. For one thing, they create ambiguities even when prefixed to a sentence that is not itself ambiguous. 'It HAS been that (it is raining and the sun is shining)' might mean that there is some past interval throughout which rain fell from a sunny sky—a 'sun-shower'. Or instead it could mean that there is some past interval with at least one rainy sub-interval and at least one sunny sub-interval…

> For another thing, span operators can be prefixed to contradictions to make truths. 'It HAS been that (it rains and it doesn't rain)' is true, at least under one of its disambiguations – the two-subinterval disambiguation. But span operators will make different truths when prefixed to different contradictions, and sometimes will not make truths at all. Sometimes they will even make new contradictions, as in the case of 'It HAS been that (it rains nonstop and it doesn't rain nonstop)' which cannot reasonably be given a two-subintervals disambiguation. Therefore they are hyperintensional operators: the intension of a sentence formed using a span operator is not a function of the intension of the embedded sentence. (Lewis 2004, 13)

How dire a problem is this?

I do not think the problem is that dire at all. It is true that prefixing the **HAS** operator to an unambiguous sentence can yield an ambiguous sentence, but it is difficult to see why this is problematic. Statements like "There have been two kings named Charles" *are* ambiguous: this would be true whether there had been two kings named Charles simultaneously or successively. Since our **HAS** operator is meant to allow us to formulate English statements about spans of time, it is no surprise that the operator carries over this ambiguity. It is also true that prefixing the **HAS** operator to a contradiction can yield a true sentence, but prefixing 'not' to a contradiction also yields a true sentence. Prefixing **HAS** to the beginning of a sentence results in a new sentence with a different meaning.

Is it worrisome that the **HAS** operator is hyperintensional? I do not think so. As Brogaard (2007) points out, while standard modal operators are not hyperintensional, some operators are:

> Story prefixes, such as *according to the Conan Doyle Stories*, are hyperintensional: the intension of 'according to the Conan Doyle Stories, Sherlock Holmes lives on Baker Street' is not a function of the intension of 'Sherlock Holmes lives on Baker Street'. (Brogaard 2007, 75)

An operator is not objectionable simply for being hyperintensional. So, span operators are not objectionable.

We can stipulate that a quantifier within the scope of a span operator, is not existentially committing just as a quantifier within the scope of a standard tense operator is not existentially committing. Thus, in the same way in which the statement

P ∃x(x is a dinosaur)

does not imply existential commitment to dinosaurs, the statement

HAS(Infinitex)(x is a King named John)

does not imply existential commitment to an infinite number of King's named John, or indeed any number of King's named John. Consequently, we can incorporate primitive span operators into our presentist-friendly language, and therefore statements which can only be expressed with such operators can be included within such a language.

Having shown that a presentist-friendly formal language can incorporate primitive span operators, we may wonder how much can be expressed in a presentist-friendly formal language without span operators. Let us briefly consider this question.

In fact it is possible to represent the statement "There have been infinitely many kings named John" in a presentist-friendly formal language *without* invoking primitive pan operators. If we want to assert that there are an infinite number of something in standard, first order predicate logic without introducing an 'infinite' quantifier, we would give a statement which could be satisfied only by an infinite number of something.

(i)	$\exists x F x$	There is some F.
(ii)	$\forall x \, \forall y (Rxy \rightarrow (Fx \, \& \, Fy))$	Only Fs stand in relation R to each other.
(iii)	$\forall x (Fx \rightarrow \exists y (Fy \, \& \, Rxy))$	For every F there is some F, such that the first stands in relation R to the second.
(iv)	$\sim\exists x (Rxx)$	Nothing stands in relation R to itself.
(v)	$\forall x \, \forall y \sim(Rxy \, \& \, Ryx)$	For any x and any y, it is not the case that both x stands in relation R to y and y stands in relation R to x.

(vi) $\forall x \, \forall y \, \forall z((Rxy \, \& \, Ryz) \rightarrow Rxz)$ For anything that stands in relation R to anything, the first also stands in relation R to anything the second stands in relation R to.

Together these statements entail there are an infinite number of Fs. According to (i) there is some F, according to (ii) there is a relation *R* which only holds between things which are Fs, and according (iii)-(vi), for every F, there is some other F` such that F stands in R to F`, and F` is neither identical to F nor stands in R to anything which stands in R to F. Thus, if we were to list all the Fs according to the R relation, for each F listed there would be another F later on the list.

The same approach can be used to state that there have been an infinite number of something in our presentist-friendly formal language.

(i)   *P* $\exists xFx$

(ii)   *P* $\forall x$ *N P* $\forall y$(*N P*(Rx) $\rightarrow$ (*N P*(Fx) & *N P*(Fy)))

(iii)   *P* $\forall x$(Fx $\rightarrow$ *N P* $\exists y$(Fy & Rxy))

(iv)   *H*~$\exists x$ *N P*(Rxx)

(v)   *H* $\forall x$ *N H* $\forall y$ *N H* ~(Rxy & Ryx)

(vi)   *P* $\forall x$ *N P* $\forall y$ *N P* $\forall z$((*N P*(Rxy) & *N P*(Ryz)) $\rightarrow$ *N P*(Rxz))

Together these statements entail that there have been an infinite number of Fs, without specifying whether or not any or all existed simultaneously. According to (i) there has been some F. According to (2) there has been a relation R which has only held between Fs. According to (iii)-(vi), for every F there has been, there has been some other F` such that F stood in R to F`, and it was neither the case that F` was identical to F or that F` stood in R to anything else which stood in R to F. Thus, if we were to list all the Fs there ever were according to the R relation, for each F on the list there would be a different F` later on the list. Since every quantifier is within the scope of

'***P***', existential commitment to things which do not exist at the present time is avoided, consistent with the requirements of a presentist-friendly formal language.

What about a statement like "There have been several kings named George" (Lewis 2004, 7)? It is not clear how much a problem this statement poses even if it cannot be formulated without span operators. After all, given the vagueness of 'several', this statement expresses no definite fact. Thus, this kind of statement does not show that a presentist-friendly formal language without span operators cannot be used to express all the facts. Moreover, it has already been shown that for any finite number n, we can represent the statement

There have been n kings named George

in a presentist-friendly language without span operators. Thus, if we allow infinitely long sentences, we could represent "There have been several kings named George" by the infinite disjunct

There have been n kings named George v there have been n+1 kings named George v …, where each 'n+m' is a possible meaning of 'several'.

Consider also the statement "When I was a child I usually behaved well"[44] (Brogaard 2007, 77). I take it that this statement has the same meaning as that expressed by

When I was a child, over half the time I behaved well.

This is vague, but not quite as vague as "There have been several kings named George." Indeed, there are definite conditions such that if they hold, "When I was a child I usually behaved well," is true. If we assume that one can only be well-behaved or not during some positive span of time,

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[44] Sider (2006) similarly that 'most' must be treated as a primitive quantifier, and statements expressing plural quantification across time containing 'most' cannot be represented with just the standard tense operators.

then we can represent this statement in a presentist-friendly formal language without span operators, though the result is admittedly awkward.

It is possible, using just the '*P*' and '*N*' operators, to assert that something was the case during a certain period of time, at all times during that period. For example, consider the statement "Obama was the President of the United States of America from 2008 to 2016." We can represent this with

> *P* ∃t(t=2008 & *N* *P* ∃t`(t`=2016 & *N* ~*P* ∃t``(t`` is between t and t` & at t~(Obama is the President of the United States of America.

In English, this says:

> It was the case that there is a time, 2008, it was the case that there is a time, 2016, and it is not the case that it was the case at some time between 2008 and 2016 that at this time it is not the case that Obama is the President of the United States.

Thus, for every time there was between 2008 and 2016, Obama is the President of the United States. We can abbreviate this as

> *P*(2008-2016)(Obama is the President of the United States of America).

Let us then return to the statement "When I was a child I usually behaved well."

One cannot, I think, behave well at an instant, except insofar as that instant is a part of a larger period of time during which one is behaving well. Let 'D' indicate a small but positive duration of time during which one could be or not be well-behaved. I represent the fact that I am well-behaved during a certain period of time of duration D by

> *P*(D)(I am a child & I am well behaved).

This sentence abbreviates:

> *P* ∃t *N* *P* ∃t` *N*~*P* ∃t``(t`` is between t and t` & at t(I am a child & ~I am well-behaved)).

In English, this says

> It was the case that there is a time t, it was the case that there is a time t`, and it is not the
>
> case that there was a time t`` between t and t` and such that I am a child at t`` and it is not
>
> the case that I am well-behaved at.

In other words, at any time between t and t`, I am well-behaved. Hence, this picks out a period of

time, the entirely of which I am well-behaved.

Now, consider the following sort of formula:

$P_{(D1)}$(I a child and I am well-behaved & N $P_{(D2)}$(I am a child and ~I am well-behaved & …

N $P_{(Dn)}$(I am a child and I am well-behaved)…).

For each such period D_i, either I was well-behaved or I was not. So, we can represent all the

different ways I could have been well-behaved for whatever proportion of my childhood we like,

using disjunction. For instance, if I am well-behaved once, I am either well-behaved during this

period and no other, or this period and no other, and so on. Since my childhood is finite in duration

and each D_i is a positive period of time, each such sentence will be finite. Thus, I can express that

I was well-behaved for whatever proportion of my childhood we like, using only finitely long

sentences in a presentist formal language without span operators.

Suppose my childhood is composed of n periods of length D. If I usually behaved well

during my childhood, then either I behaved well during all n such periods, or all n periods but one,

or all n periods but two, and so on, so long as the periods during which I am well-behaved

outnumber those during which I am not. Generally, I behaved well during most of my childhood

just in case I am well-behaved during n-m periods of length D, where n is greater than m. I am

well-behaved during n-m periods of length D just in case either I am well-behaved during each of

these n periods but not these m periods, or each of *these other* n periods but not these other m

periods or each of these *still other* n periods but not these m periods, and so on. Thus we could in principle, using an incredibly long but finite sentence, express the general assertion that during my childhood I am usually well-behaved. Of course this would not be practically feasible, and for that reason we should utilize span operators.

On the other hand, consider the following statement:

For most of the time during the experiment there were particles that exist only for an instant.

Since such particles do not exist for any positive span of time, the strategy utilized to represent "When I was a child I usually behaved well" does not work in this case. Hence, it seems that this kind of statement does create a problem for a presentist formal language without span operators. Since there is no great reason a presentist formal language cannot incorporate span operators, however, it is not a problem for presentist formal languages generally.

3.5   Concluding Remarks

In this chapter I have considered an argument for the conclusion that the debate over presentism and eternalism must be substantive. The basic thrust of this argument is that by adopting either a presentist formal language or an eternalist formal language you take on different ontological commitments. I showed that those philosophers who do not think the debate is substantive will object that the three languages considered in fact constitute different ways of stating the same kinds of fact. Those who think that the choice of which formal language to use is effectively a choice between different ontologies owe us an account of what the ontological disagreement consists in. In other words, they owe us an explication of presentism and eternalism as substantive, opposed metaphysical theses.

A final closing comment is in order. If we want to understand presentism and eternalism as substantive, opposed metaphysical theses, we should not want different languages such that you take on different ontological commitments depending on which you adopt. Rather, we should want a single language which has the expressive capacity adequate for describing the world according to either presentism or eternalism. We would then need to a find an unambiguous statement in that language such that presentists and eternalists disagree as to its truth. Those philosophers who propose that presentism and eternalism are opposed theses about what falls within the range of the most unrestricted quantifier are, in this respect at least, on the right track. Unfortunately, their proposal presupposes that the debate is substantive, and does not explain it.

CHAPTER 4. AN ANALOGUE WITH THE DEBATE OVER MODAL ACTUALISM AND POSSIBILISM

The debate over presentism and eternalism is often said to be importantly analogous to the debate over modal *actualism* and modal *possibilism* (Sider 1999), (M. Davidson 2003) (Franklin 2006), (Rea 2006), (McDaniel 2010), (Noonan 2013). Actualism is the view that *only actual things exist*, and it is thought to be analogous to presentism. Possibilism is the view that *there are non-actual (merely possible) things*, and is thought to be analogous to eternalism.

In this chapter I am going to consider whether this analogy can be used to help us understand presentism and eternalism substantively. If actualism and possibilism are substantive theses, and if these are analogous to presentism and eternalism, then perhaps the latter theses can be understood substantively as well, and the former will give us some idea of how to do this. I am going to argue that this will not work: if we do not already understand the debate over presentism and eternalism, looking to the debate over actualism and possibilism will not help us.

4.1 Analogues

Actualism, according to which only actual[45] things exist, seems to be a straightforward modal analogue of presentism, according to which everything that exists, exists at the present time. Likewise, possiblism, according to which merely possible things exist, seems to be a straightforward modal analogue of eternalism, according to which everything which ever did, does, or ever will exist, exists. Let us survey some other points of analogy.

A core point of contention between presentists and eternalists is how to account for the fact that many apparently true statements seem to be about persons and things which do not exist at the

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[45]For now, I intend 'actual' to be understood intuitively at this point. I think that the different parties to the dispute *disagree* on the meaning of 'actual', and this will play an important role in the discussion later. I want to get the views on the table before looking at the details, though.

present time, like "Plato wrote *The Republic*," and "Contemporary western philosophers owe a debt to Plato and Aristotle." An analogous point of contention between actualists and possibilists concerns how to account for the apparent truth of statements about unactualized possibilities, as in "Ludwig Wittgenstein's possible child, Fritz, might have been a staunch metaphysical realist."

Both actualists and possibilists typically account for statements about what is possible by invoking *possible worlds*, where a possible world is, roughly, a way that things could be. The concept of a *possible world* can be understood in both a formal and a more substantive way.

Formally, a possible world is just anything which is designated to stand for a way the universe might have been. In this sense, possible worlds could be pencil marks on a sheet of paper, or goldfish in a pond, or most anything else[46] provided that we can assign certain statements to be counted as true *at* each of those objects and we can stipulate that certain of those objects are *accessible* from certain other of those objects. We can then define necessity and possibility as follows. First,

S is possible at a world w just in case for some world w` such that w` is accessible from w,

S is true at w`.

Second,

S is necessary at a world w just in case for any world w` such that w` is accessible from w,

S is true at w`.

We can then consider what is possible or necessary, on different senses of 'possible', by varying which worlds are accessible from which. If we are concerned with physical possibility, we will

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[46] Arguably, if we want to represent all the ways the universe could have been, we would need an infinite number of such objects. In practice, though, we only need enough objects to represent the possibilities we are concerned with.

count as accessible all and only those worlds in which all the same laws of physics hold as in the actual world. If we are concerned with metaphysical possibility, we will count as accessible all and only those worlds adhere to whatever the correct principles of metaphysics are.

On the more substantive conception, a possible world *is* a way the universe might have been. Actualists and possibilists disagree about the nature of other possible worlds in the substantive sense. For a possibilist, a possible world (other than the actual world) consists of a set of merely possible objects, and hence, invocation of possible worlds brings with it existential commitment to possible objects.

I will take as my main example of possiblism the *modal realism* of David Lewis (1973) (1986). Under modal realism a possible world is a spatially, temporally, and causally interconnected collection of concrete things, which is spatially, temporally, and causally isolated from every other possible world. On this view, the statement "Ludwig Wittgenstein's possible child, Fritz, might have been a staunch metaphysical realist" is true (if it is), because in some world which is causally, spatially, and temporally disconnected from our world, the concrete person in that world who is the *counterpart[47]* of Ludwig Wittgenstein, whom we might call *Twudwig Wittgenstein*, has a child, Fritz, who is a staunch metaphysical realist. Unless our beliefs about Ludwig Wittgenstein are hugely mistaken, however, Fritz has no counterpart in our world. Fritz thus exists but is merely possible.[48]

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[47] For any person or thing P in a world w, a counterpart of P in a world w` is the person or thing, if any, in w` most similar to P. Lewis thinks all individuals are world-bound, meaning they exist in only one world. The counterpart relation consequently is thus used by Lewis in place of identity across possible worlds.

[48] One might wonder whether modal realism is really a genuine version of possibilism. The objects populating other worlds are every bit as concrete as those in our world. The people in other worlds have hopes and dreams just like the people in our world. Rather than being a view according to which non-actual things exist, modal realism might be interpreted as a view which dispenses of mere possibility altogether. According to Lewis, utterances of the word 'actual' function indexically to refer to things which exist at the world of the speaker. Consequently, objects in worlds

Similarly, under eternalism there exist things at other times which do not exist at the present time. Under eternalism, the statement "Plato wrote *The Republic*" is true because there is a time before this one at which a person, Plato, is writing *The Republic*. The statement "Contemporary western philosophers owe a debt to Plato and Aristotle" is true because there exist such persons as Plato and Aristotle at times before this one, and the development of philosophy in the intervening period is heavily influenced by what they are doing (at the times at which they are located), with the consequence that philosophers today owe a debt to them.[49]

For an actualist, a possible world is something abstract (Van Inwagen 1986), though different actualists disagree as to how possible worlds are to be construed. According to combinatorialists, like Armstrong (1986) and Wittgenstein of the *Tractatus Logico-Philosophicus* (2001), possible worlds are possible combinations of actual objects. On this view, the statement "Ludwig Wittgenstein could have had a child, Fritz, who was a staunch metaphysical realist" is true just in case existing objects could have been arranged so as to form a child of Ludwig Wittgenstein, whom we can call 'Fritz', and who would have been a staunch metaphysical realist.

Alternatively, an actualist might construe a possible world as a maximally consistent proposition, that is, the conjunction of either P or ~P for every atomic proposition P, where a proposition is the abstract, non-linguistic entity expressed by sentences with the same meaning.[50] On this account, "Ludwig Wittgenstein could have had a child, Fritz, who was a staunch

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other than ours are non-actual, and hence merely possible. Thus, as Lewis construes it, modal realism is a version of possibilism. I will follow his lead.

[49] Whether or not the presentist could also accept this explanation for why "Plato wrote *The Republic*" is true is, of course, not something we should presuppose an answer to at this point.

[50] One problem with identifying possible worlds with maximally consistent propositions is that there are presumably possible propositions which cannot be expressed in some worlds; specifically, those singular propositions containing terms which directly refer to things in other possible worlds. I will not bother with pursuing this objection further or considering how advocates of this account of possible worlds might respond, since it is beyond the scope of my discussion.

metaphysical realist," is true just in case some maximal proposition contains as a constituent the proposition *that Ludwig Wittgenstein has a child who is a staunch metaphysical realist*, who for convenience we can call 'Fritz'. Note that this proposition cannot have as a constituent *Fritz himself*, as that would entail the existence of a merely possible person, contrary to actualism.

One of the best worked out versions of actualism is Plantinga's (1974). Plantinga's version of actualism identifies possible worlds with maximal states of affairs. One example of a state of affairs is *Trump being the President of the United States*. Another example would be *Clinton being the President of the United States*. The former is, unfortunately, an actual state of affairs, while the latter is not (here, 'actual' means the state of affairs *obtains*). A maximal state of affairs is one such that for every proposition P, that state of affairs makes either P or its negation true (or it would, were that state of affairs to obtain).

Along with states of affairs, Plantinga's theory invokes *essences*, where a particular essence E is some feature such that, if anything has E it has E essentially, and necessarily nothing else has it. Every maximal state of affairs contains certain essences, so that were that maximal state of affairs to obtain, there would exist objects with those essences. Consequently, on Plantinga's view "Ludwig Wittgenstein could have had a child, Fritz, who was a staunch metaphysical realist" is true just in case there is a state of affairs containing an essence which includes *being a child of Ludwig Wittgenstein*, and the child who would exist if this state of affairs had obtained would be a staunch metaphysical realist. The name 'Fritz', then, is a kind of indefinite description used to indicate a certain class of essences, such that had any of these essences been instantiated, Ludwig Wittgenstein would have a child.[51]

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[51] I am here assuming that not only is it possible that Wittgenstein could have had children, but that he could have had different children, even if he only had one. Any of these could be designated with 'Fritz'.

Some presentists, those who contend that *only things existing at the present time can have properties or stand in relations*, likewise typically make metaphysical posits to account for the truth of past-tensed statements. "Plato wrote *The Republic*" is true because, say, there is a primitive tensed fact *that Socrates drank hemlock* (Bigelow 1996),[52] or an abstract object which has as its constituents *Socrates* and *drinking hemlock* (Bourne 2006), or something like that. Invocation of such objects by these presentists is at least apparently analogous to the modal actualist's use of possible worlds.[53]

A final point of analogy is worth drawing attention to. In the first chapter, I argued for the conclusions that presentism and eternalism are not substantive theses, and consequently that the debate over presentism and eternalism is not substantive. The basic thrust of these arguments was that presentism and eternalism are both ambiguous, and once they are disambiguated there is nothing for any reasonable person to disagree about.

A parallel argument can be given for the conclusion that actualism and possibilism are not substantive, opposed philosophical theses.[54] Consider actualism, the thesis that only actual things

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[52] What is a primitive tensed property? Bigelow claims it is a property an object has concerning what used to be the case, as a patch of ground might have the property *being where a dinosaur roamed*. These properties are primitive because they cannot be analyzed in terms of what obtains at non-present times. For instance, for a patch of ground to have the property *being where a dinosaur roamed* is not to be explained by claiming that a dinosaur is roaming on that patch of ground in the past.

[53] Meyer (2005) (2013) argues that whatever the presentist posits to account for the truth of past-tensed statements cannot be analogous to possible worlds, since possible worlds must account for the truth of statements about all possibilities, but the presentist does not want to account for the truth of all possible pasts. This is correct, but it does not show that there is no useful analogy between actualism and possibilism. An analogy need not be complete to be useful, after all.

[54] Meyer (2005) (2013) likewise notes this, but argues that the essence of actualism and possibilism is not captured by such proclamations as "everything that exists is actual" or "merely possible things exist," but rather by their different conceptions of possible worlds, thus undercutting the supposed analogy with presentism and eternalism. I have shown, however, that the different ways actualists and possibilists construe possible worlds in fact provides a basis for at least an apparent analogy with presentism and eternalism.

exist. This could be read as *only actual things actually exist*, which is trivially true, and *only actual things possibly exist*, which seems obviously false. I could have had an older sister, after all. Possibilism, the thesis that there are non-actual (merely possible) things could be read as *there actually are non-actual (merely possible) things*, which is contradictory, or *there could be (could have been) things which in fact are non-actual*, which seems to be obviously true.[55]

Ultimately, my point in bringing up this skeptical argument for the conclusion that actualism and possibilism are not substantive metaphysical theses is not to endorse it. Rather, I intend to offer a response to it, and then see if a parallel response can be given to the skeptical argument for the conclusion that presentism and eternalism are not substantive metaphysical theses.

4.2   How to Understand the Debate Over Actualism and Possibilism

In the previous section, I pointed out some ways in which actualism is analogous to presentism and possibilism is analogous to eternalism. One apparent point of analogy is that there is a straightforward argument for the conclusion that the debate over actualism and possibilism is not substantive, paralleling the argument for the conclusion that the debate over presentism and eternalism is not substantive. If we are going to use the debate over actualism and possibilism to help us understand the debate over presentism and eternalism substantively, we had better be able

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[55] Someone might object that the skeptical line of argument does not really apply in the case of actualism and possibilism. The basis of the argument in the case of presentism and eternalism is that English verbs are tensed, and thus the tense of 'exists' in the definition of presentism needs to be clarified. But English contains no equivalent to tense in the modal case. Thus, Lombard (2010) claims that whereas 'exists' can mean 'exists now', or 'did exist, does exist, or will exist,' it cannot mean 'possibly exists', and so the basis for denying that the debate over presentism and eternalism is not substantive does not apply to the case of actualism and possibilism: the actualist and possibilist are using 'exists' in the same way, and genuinely disagree as to what that includes. I am going to set this aside. Assuming there is such an analogy can only strengthen the case that the debate over actualism and possibilism can be used to help us better understand the debate over presentism and eternalism.

to understand the former debate substantively. In this section I want to show how to understand the debate over actualism and possibilism.

I said that actualism is ambiguous between the trivial thesis that only actual things actually exist, and the obviously false thesis that only actually things possibly exist. The actualist and the possibilist both agree that the first thesis is true. Regarding the second thesis, some actualists may indeed think that nothing could possibly exist other than what in fact does (or did or will) exist, but that is not what actualists typically think. Most actualists agree that there could have existed objects other than those which there actually are. So, actualists and possibilists typically agree that only actual things actually exist, but that there could have possibly existed other things.

In order to understand modal actualism and modal possibilism as substantive, opposed philosophical thesis, we have to understand how advocates of these positions can disagree as to whether or not *everything is actual*, that is,

$\forall$x Actually $\exists$y(y=x)),

where the outermost quantifier '$\forall$' does not mean either *every actual thing* or *every actual or possible thing*. On the first reading we would have

$\forall^{actual}$x Actually $\exists$y(y=x)),

that is, every actual thing is identical to some actual thing, which is trivial. On the second reading we would have

$\forall^{possible}$x Actually $\exists$y(y=x),

that is, every possible thing is identical to some actual thing, which is obviously false.

The question of how to understand the claim that everything is actual as a substantive philosophical thesis is equivalent to the question of how to understand the claim that there exist merely possible things as a substantive philosophical thesis. Of course, this is not a disagreement

over whether there actually exist non-actual things, since proponents of both views agree that this is false. Nor is this a disagreement over whether there could have possibly existed things which do not actually exist, since proponents of both views agree that this is true. What we will find is that actualists and possibilists offer different kinds of explanations as to why a statement of the form

It could have possibly been the case that F,

are true, as well as different analyses of such concepts as *possibility* and *actuality*. As a result of these diverging explanations, a statement like

Ludwig Wittgenstein's possible child, Fritz, might have been a staunch metaphysical realist,

is reckoned true by the possibilist but false by the actualist. To see how this works, we will have to look more closely at the underlying points of contention between actualists and possibilists. First, however, I want to briefly discuss something which may seem to be a point of contention between actualists and possibilists: The Barcan formula.

4.2.1   The Barcan Formula

The Barcan formula is an axiom in an early system of modal logic with quantification theory, developed by Ruth Barcan (Barcan 1946). Letting '$\Diamond$' stand for such clauses as "It is possible that" and "It could have been the case that," and letting 'α' stand for any formula, the Barcan formula is:

$\Diamond \exists x\, \alpha \rightarrow \exists x\, \Diamond\, \alpha$,

that is, if there could possibly be something such that α, then there is something such that possibly α.

According to a temporal analogue of the Barcan formula, if there did or will exist something such that α, then there exists something which was or will be such that α. That is:

$(P \exists x \, \alpha \text{ v } F \exists x \, \alpha) \rightarrow \exists x (P \, \alpha \text{ v } F \, \alpha)$.

Thus, if the Barcan formula in the modal case helps to understand the debate over actualism and possibilism, perhaps the temporal version will help us to understand the debate over presentism and eternalism.

Consider the claim that Wittgenstein could have had a child, Fritz, who was a staunch metaphysical realist. If the Barcan formula is correct, then there exists something which could have been such a child of Wittgenstein. That is,

> ◇ ∃x(x is a child of Wittgenstein & x is named 'Fritz' & x is a staunch metaphysical realist) → ∃x ◇(x is a child of Wittgenstein & x is named 'Fritz' & x is a staunch metaphysical realist).

Yet it may seem that no actual entity is such that it could have been a child of Wittgenstein.

It may seem that, other than denying the Barcan formula, there are two ways of responding to this problem.[56] One is to deny the antecedent, and claim that in fact it is not possible that Wittgenstein could have had a child, Fritz, who was a staunch metaphysical realist. This would amount to endorsing a very strict version of actualism according to which only what actually exists could possibly exist. While this is perhaps not quite as absurd as the thesis that everything which ever did exist or will exist, exists now, I presume that the typical actualist does not believe this.

The other option is to accept that although no *actual* thing could have been Wittgenstein's child, Fritz, some *possible thing* is such that it could have been Wittgenstein's child. Thus, there exist merely possible things.

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[56] In fact, I believe this is false, a point I will come to later.

The actualist, if she does not wish to deny that Wittgenstein could have had a child, may wish to deny the Barcan formula. Indeed, Kripke (1963) provides a semantics for quantified modal logic on which the Barcan formula comes out false. In this system we have a class of possible worlds and a function which assigns to each predicate a unique[57] extension in each possible world, where the extension of a predicate in a world are the things in that world which said predicate correctly applies to. So, the predicate 'is a cat' has a certain extension in our world, specifically, all the cats, and a different extension in certain other worlds: those which contain more or less cats than there are (in our world). The predicate 'is a child of Ludwig Wittgenstein' has an empty extension in this world, but a non-empty extension in some other possible worlds. Since the extension of a predicate can vary from world to world, and since the extension of a predicate is a domain, this is called *variable domain semantics*.

Thus, it would seem that actualists and possibilists can disagree as to the truth of the Barcan formula. If presentism and eternalism are substantive, opposed metaphysical theses, perhaps presentists and eternalists disagree as to the truth of the temporal version of the Barcan formula. As I will show, it is not clear that presentists and eternalists do disagree as to the truth of the Barcan formula, and it is not clear that the Barcan formula by itself really helps us understand the debate over actualism and possibilism, independent of some further account of what it is for something merely possible to exist.

Recall that the temporal version of the Barcan formula goes like this:

(P ∃x α v F ∃x α) → ∃x(P α v F α).

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[57] I do not mean to say that a predicate P has a different extension in every possible world: it may be that P has the same extension in w and w`. Rather I mean to say that not all w and w` are such that P has the same extension in both.

In English:

> If there ever did or ever will exist something such that α, then there exists something such
> that it either was or will be the case that α.

Do presentist and eternalists disagree as to the truth of this formula? Well, suppose that we are adopting a presentist formal language[58] in which the existential quantifier, when outside the scope of any tense operators, ranges just over things existing at the present time (or possibly outside of time). So interpreted, this says,

> If there ever did or ever will exist something such that α, then there now exists something
> such that it either was or be the case that α.

This, both the presentist and the eternalist should agree, is false. For suppose it is the case that there will be a person born in the year 2050, that is,

> F ∃x(x is born in the year 2050).

It surely does not follow that there is *now* someone who will be born in the year 2050, that is

> ∃x F(x is born in the year 2050).

Thus, if we adopt a presentist formal language, the temporal version of the Barcan formula comes out as obviously false.

Alternatively, suppose we are adopting a single domain eternalist formal language, in which tense operators are used to indicate when something is the case relative to the present time. So interpreted, the temporal version of the Barcan formula ought to be read as follows:

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[58] See chapter 3.

If it either was the case that at some time or other something is such that α or it will be the case at some time or other than something is such that α, then at some time or other there is something such that either it was that α or it will be the case that α.

Consider the claim that

It will be the case that at some time or other there is a person born in the year 2050.

This statement clearly entails:

There is at some time or other something such that (relative to the present time), it will be the case that this person is born in the year 2050.

Both the presentist and eternalist should thus agree that the temporal version of the Barcan formula is true under this reading. Perhaps there is another way of reading the temporal version of the Barcan formula on which presentists and eternalists will disagree as to its truth. Unfortunately, we do not know what it is.

The second point I want to make is that the Barcan formula by itself does not help us to understand the debate over actualism and possibilism. The mere assertion that there exist merely possible things does not by itself help me to understand possibilism as a substantive thesis. I need to understand what it would be for a merely possible thing to exist. The Barcan formula by itself does not help us in this respect.

I said earlier that if we accept the Barcan formula, it seems that there are two possible responses to the problem that it seems like Wittgenstein could have had a child, Fritz, who was a staunch metaphysical realist. In fact, I excluded a third option: deny the assumption that no actually existing thing could have been such a person. An actualist could consistently accept the Barcan formula and affirm that Wittgenstein could have had such a child, so long as she is willing to accept that there is something which could have been that child. It seems obvious, of course, that no

ordinary thing could have been such a person, but our actualist may insist that some unordinary thing could have been. Perhaps there is some abstract entity which, had it been instantiated, would have been Wittgenstein's child Fritz.[59]

Nor does the variable domain semantics associated with Kripke's semantics for modal logic entail actualism. For the possibilist may insist that although different things exist in different possible worlds, everything in any possible world *exists*, and thus that there exist merely possible things. In order to understand the debate over actualism and possibilism, we need some idea of what it means to assert (or deny) that merely possible things exist. It is to that task which I now turn.

4.2.2 Making Sense of Possibilism

At this juncture, I intend to give an account of how there can be a substantive debate over whether or not there exist merely possible things. Our challenge, recall, is how to make sense of the claim that everything is actual, that is

∀x Actually ∃y(y=x),

as a substantive philosophical thesis. The short version of the answer to this challenge is that the possibilist thinks the word 'actual' does not apply to everything that exists, whereas the actualist does, because the possibilist and the actualist offer different accounts of possibility and necessity.

Actualism and possibilism each have three different underlying aspects: one metaphysical, one conceptual, and one semantic. The metaphysical aspect concerns what exists. The semantic aspect concerns why true statements about what is merely possible are, in fact, true. The conceptual aspect concerns the proper analysis of such concepts as *actuality* and *necessity*. By considering all

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[59] Williamson (1998) suggests such an interpretation of the Barcan formula.

three aspects of actualism and possibilism we see how it is that whether or not non-actual things exist can be understood as a substantive philosophical question. I will briefly discuss each of these in turn.

By the metaphysical aspects of actualism and possibilism I do not mean the respective claims that there do and do not exist non-actual things. What it means to say that non-actual things do or do not exist is exactly what we are trying to understand. By the metaphysical aspects of actualism and possibilism I mean the metaphysical commitments of these views insofar as they can be described independently of the question of whether or not there exist non-actual things. The metaphysical aspects of actualism and possibilism contain points of both agreement and disagreement.

Actualists and possibilists *agree* that clearly actual things exist. Individual actualists and possibilists may disagree as to what actual things there are, but this will be a result of philosophical commitments independent of actualism and possibilism. For instance, an individual actualist may be a mereological universalist, and an individual possibilist a mereological nihilist. So, the actualist will believe that for any two objects, there is a third object which they compose, and the possibilist will believe that no two objects ever compose another. Thus, this particular actualist and this particular possibilist will disagree about what exists. That disagreement will be due to their differing views on mereology, however, rather than modality. Setting aside independent philosophical commitments, actualists and possibilists can both agree that rocks, trees, and people all exist.

The possibilist at least, and many actualists, will go on to make further ontological claims, however. In the case of Lewis's modal realism, we have the vast number of worlds which are spatially, temporally, and causally isolated from this world and each other. For their part, actualists

will typically claim that there are, say, abstract combinations of actual objects, or abstract states of affairs.

It is worth noting that though the actualist in fact likely denies that the entities posited by the possibilist exist, she does not have to. A typical actualist probably does not think there are any concrete worlds spatially, causally, and temporally isolated from ours,[60] and, therefore, does not think any of these worlds contains a concrete counterpart of Ludwig Wittgenstein with a son, Fritz, who is a staunch metaphysical realist. None of the actualist's commitments *qua actualist*, however, forbid her for granting that there may *for all she knows* exist such spatially, causally, and temporally isolated worlds. Similarly, nothing prevents the possibilist *qua possibilist* from granting that there are facts such that certain objects could compose another object, or abstract states of affairs containing unrealized essences, and so forth. Thus, while it is likely actualists and possibilists in fact disagree about ontology, this disagreement is not essential.

The conceptual aspect of actualism and possibilism consist in how, according to each view, we are to analyze such concepts as *possibility* and *actuality*. It is here where the essential underlying point of contention between actualists and possibilists begins to appear. According to possibilism, the concept of *actuality* is analyzed so that it does not apply to everything that exists, whereas under actualism, *actuality* is analyzed so that everything whatsoever that exists counts as actual.

According to Lewis, the word 'actual', in its contexts of use, is restricted in an indexical way, such that any utterance of a sentence containing it refers to the Lewisian world in which it is uttered. Lewis (1970) writes

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[60] I am of course assuming that there is no sound argument for the conclusion that all spatial things must be spatially connected. If such an argument can be found, modal realism will be refuted.

> I suggest that 'actual' and its cognates should be analyzed as *indexical* terms: terms whose reference varies, depending on relevant features of the context of utterance. According to the indexical analysis I propose, 'actual' (in its primary sense) refers at any world w to the world w. (Lewis 1970, 184)[61]

Similarly, the word 'possible' functions indexically so that any utterance of a sentence containing it refers to some set of Lewisian worlds other than the world of utterance.

While the existence of worlds like Lewis describes is consistent with the actualist's beliefs *qua actualist*, it is inconsistent with those beliefs that such worlds play the role Lewis utilizes them for in his analysis of our concepts of *actuality* and *possibility*.[62] It is consistent with actualism that there is some concrete world, isolated from our own, populated by people very much like us, such that the person in that world who most resembles Ludwig Wittgenstein in our world has a child who is a staunch metaphysical realist. As far as the actualist is concerned, this would have nothing to do with whether Wittgenstein might have had a child, Fritz, who was a staunch metaphysical realist. If the actualist did believe in worlds like Lewis describes, she would claim they were actual.

This is not a peculiarity of modal realism. It seems to me that *any* version of possibilism must make an analogous conceptual claim. Unless we have been fooled, it seems clear, says the actualist, that no child of Ludwig Wittgenstein exists. The possibilist will retort that in fact a great many such children exist, but not actually. Whatever could this mean? Presumably it means there are things with some feature F, in virtue of which the possibilist says that they are non-actual, and one of these things is what we are talking about with the sentence "Ludwig Wittgenstein's possible child, Fritz, might have been a staunch metaphysical realist." As far as I can see, for any such proposal, so long as the feature F is not inconsistent, the actualist could concede that there may,

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[61] Lewis (1986) quotes this passage approvingly in *On the Plurality of Worlds*, p. 93.
[62] Indeed, Van Inwagen (1980) argues that if we understand possible worlds as actualists want us to, then we should not treat 'actual' as an indexical at all.

for all she knows, exist things with the feature F. As an actualist, however, she would deny that the Fs are merely possible things.

The semantic aspect of actualism and possibilism consists of the explanation for what it is in virtue of which statements about mere possibility are *true* or *false*. For the actualist, such statements are true or false in virtue of facts about abstract *possible worlds*. The possibilist will deny, however, that such things can adequately ground our talk involving possibility and necessity (Lewis 1986). Consequently, actualists and possibilists disagree as to why a statement like

Ludwig Wittgenstein could possibly have had a child, Fritz, who would have been a staunch metaphysical realist

is true. According to the actualist, this statement is true in virtue of some actual abstract fact, and not in virtue of any such person as Fritz. According to the possibilist, this is true because Fritz exists, but lacks the features requisite for being *actual*.

We can see now why the statement that

There exist non-actual things

comes out true under possibilism but not under actualism. In order to have a substantive disagreement over whether or not non-actual things exist, however, it must be the case that actualists and possibilists are offering different analyses of the very same concepts of *possibility* and *actuality*, rather than discussing different concepts with the same words 'actuality' and 'possibility'. For comparison, the claim that *there are married bachelors* would not become a substantive thesis if someone decided to define 'bachelor' as 'a man who is missing a toe'. Nothing prevents someone from using the word 'bachelor' in this way, but whether or not bachelors can be married would not thereby become a topic of reasonable debate. Rather, we would have two

different concepts which, unfortunately, are both expressed by the same word 'bachelor', and one of these applies only to unmarried men whereas the other may apply to married persons.

Lewis's modal realism, and any other version of possibilism, is a substantive contribution to philosophical thinking about possibility only insofar as it can be seen as offering a way of analyzing the concept *being actual* which we already have, rather than supplying a new concept called by the same name. Wondering what could have been, as opposed to what is actually the case is a part of everyday life, not a creation of philosophers.

To his credit, Lewis (1986) argues that our usage of 'actual' does not rule out as incoherent the claim that there are non-actual things. Says Lewis:

> Suppose we interviewed some spokesman for common sense. I think we would find that he adheres firmly to three theses:
> (1)   Everything is actual.
> (2)   Actuality consists of everything that is spatiotemporally related to us, and nothing more (give or take some 'abstract entities'). It is not vastly bigger, or less unified, than we are accustomed to think.
> (3)   Possibilties are not parts of actuality, they are alternatives to it.
> The first two theses cannot both be mere matters of meaning, trivial analytic truths. Taken together, they say too much for that. My critics claim that the first is analytic, its denial is paradoxical or 'mere noise'; whereas the second is up for grabs. But I think that the two theses, indeed all three are on equal footing. (Lewis 1986, 99)

I understand Lewis to be arguing as follows. We are inclined to think both that everything is actual and that every actual thing is spatially and temporally continuous with us. But it cannot be the case that both of these are analytic truths, since together they would imply the logical impossibility of worlds disconnected from ours. Since as far as we can tell there could be such worlds, we must conclude that the meaning of the word 'actually' is not fully determined by our linguistic practice.

Lewis's modal realism, then, if it succeeds in making the debate over actualism and possiiblism substantive, does so by utilizing a certain indefiniteness in the meaning of 'actual' in ordinary language. The word 'actual' is sometimes intended to cover *everything*, but, according to

Lewis it also is presumed to apply only to things spatially and temporally continuous with us. Consequently, if there are things which are neither spatially or temporally continuous with us, it is not clear whether 'actual' should apply to them, or whether they have anything to do with the truth or falsity of our modal claims. Other versions of possibilism must likewise exploit some indefiniteness in the meaning of 'actual'.

4.3   Presentism and Eternalism

In the previous section, I made a proposal for how to understand the debate over modal actualism and modal possibilism. The short version of this response was that the possibilist agrees that only actual things actually exist, but insists that what *actually exists* is less than what *exists*. Following this lead, the short version of our response to the skeptic who believes presentism and eternalism are not substantive metaphysical theses is that the eternalist agrees that only *present things* exist *now*, but contends that what is expressed by the phrase 'exists now' does not apply to everything that exists.

The proposal seems to go like this. The presentist accepts, whereas the eternalist rejects, the claim that *everything that exists, exists now*, that is,

$\forall x(\text{now } \exists y(y=x))$.

The presentist claims that this is true even if the outermost quantifier is taken as unrestricted, so that everything falls within its domain. The eternalist, likewise interpreting the outermost quantifier as unrestricted, claims this is false, because among those things which are included in the range of the outermost quantifier, are things which do not exist at the present time.

In order for this to amount to a satisfactory response to the skeptic, we have to fill out the details. The skeptic will claim that the presentist and the eternalist are not really using the quantifier

in the same way. The claim that everything that exists, exists now is trivially true if it is read as the claim that *everything that exits now, exists now*, that is

Now ∀x(Now ∃y(y=x)).

This claim is obviously false, however, if read as the claim that *everything that ever did exist, does exist, or will exist, exists now, that is*

Ever ∀x(Now ∃y(y=x)).

The skeptic will insist that those philosophers who believe the debate over presentism and eternalism to be substantive owe us an account of how to understand the thesis that everything that exists, exists now, so that it is not equivalent to either of the above readings. Let us see if our approach to making sense of the debate over actualism and possibilism in the previous section will help us.

We saw that actualism and possibilism each has a metaphysical aspect consisting in a claim about what exists, a conceptual aspect consisting in a claim about how to analyze such concepts as *actuality* and *possibility*, and a semantic aspect consisting in a claim about what it is in virtue of which statements about possibility are true or false. Altogether, these three aspects provided us with a way of understanding the debate over whether there exist non-actual things.

If the debate over presentism and eternalism is to be understood analogously, both presentism and eternalism will have a metaphysical, conceptual, and semantic aspect, such that altogether these three aspects provide us a way of understanding the debate over whether things which did exist in the past and things which will exist in the future, exist. The metaphysical aspect of presentism cannot just be the claim that only things that exist at the present time exist, and the metaphysical aspect of eternalism cannot just be the claim that things which did or will exist, exist. These views are, after all, precisely what we are trying to understand. Unfortunately, it is not at all

clear what else the metaphysical aspects of presentism and eternalism might be, other than the fact, which both agree on, that things existing at the present time exist.

Previously, I said that the possibilist posits a class of entities the existence of which is consistent with actualism, although the typical actualist probably does not believe that such entities exist. The possibilist claims that these entities are merely possible, and that statements about possibility and necessity are true or false in virtue of facts about them. The actualist denies this. If presentism is analogous to actualism, and eternalism analogous to possibilism, then it should be the case that the eternalist posits a class of entities the existence of which is consistent with presentism, although the typical presentist does not believe that such entities exist. Presentists and eternalists will then disagree as to whether these entities are things which did exist in the past or will exist in the future, and whether they explain the truth and falsity of statements about what was or will be the case in the past or future.

The entities which eternalists posit, however, are not consistent with presentism. When the eternalist asserts that dinosaurs exist, she is not asserting the existence of a kind of entity which the presentist can accept may exist for all he knows, and then making the further assertion, which the presentist rejects, that those things are dinosaurs. Rather, the eternalist simply asserts that there are dinosaurs, which exist in the past. If there is a substantive disagreement between presentists and eternalists, then it cannot be the case that the existence of the entities posited by the eternalist could exist according to presentism. Thus, the way we made sense of the debate over actualism and possibilism does not apply in the case of presentism and eternalism.

Here is another way of challenging the idea of making sense of the debate over presentism and eternalism by treating these as temporal analogous of actualism and possibilism. Recall that earlier I quoted David Lewis's claim that the following three theses are a part of common sense:

(1)   Everything is actual.
(2)   Actuality consists of everything that is spatiotemporally related to us, and nothing more (give or take some 'abstract entities'). It is not vastly bigger, or less unified, than we are accustomed to think.
(3)   Possibilities are not parts of actuality, they are alternatives to it. (Lewis 1986, 99).

If presentism and eternalism can be understood as substantive, opposed metaphysical theses by analogy to actualism and possibilism, then we should expect some parallel set of theses of common sense with respect to time.

What might the three parallel theses be? Perhaps the following:

(1`)   Everything that exists, exists at the present time.
(2`)   The present time consists of everything simultaneous with us now, and nothing more (give or take some 'abstract entities').
(3`)   Other times are not parts of the present time, they are alternatives to it.

Are all of these common sense?

Is it a piece of common sense that everything that exists, exists at the present time? Well, this is trivially true if 'exists' is in the present-tense, and obviously false if 'exists' is used to be mean *did exist, does exist, or will exist*. Is it a piece of common sense if 'exists' is meant in some other way? But we do not what this other way of understanding 'exists' is, or even if there is one. Now, (2`) is surely a piece of common sense. Indeed, it just seems trivial. On the other hand, while (2) also seems like common sense, it does not seem trivial: there could, as far as I know, be objects with spatial properties which do not stand in any spatial relations to us.

Is (3`) a piece of common sense? We need to get clear on what (3`) says. In (3), by an alternative to the actual world is meant, presumably, a way the world could have been instead of the way the world is actually. Thus, 'alternatives' is used in a modal sense. If I were to speak of alternative times to the present in this sense, I would not mean past and future times, but other ways the world could be at the present time. Now, it is a piece of common sense that things right

now could have been different than in fact they are. The eternalist, however, does not intend to deny this, and it has nothing to do with whether or not past and future times or things exist..

Lewis thinks that the possibilist will reject (3) in favor of the claim that

Possibilities are not parts of actuality, they are other than it,

where 'other' just means *different*: there are different worlds than the world which we consider to be actual. The temporal analogue of this statement would seem to be as follows:

(3``)   Other times are not parts of the present time, they are other than it,

where this is to be understood equivalently to the following:

Past and future times are not part of the present time, they are other times.

It does not seem that either the presentist or eternalist should disagree with this. The presentist and eternalist both think that there was a time, 1776, which is not a part of the present time, and that there will be a time, 2050, which is also not a part of the present time. We have yet to clearly identify a point of disagreement.

Lewis responds to the three original theses of common sense with respect to modality like so:

> The first two theses cannot both be mere matters of meaning, trivial analytic truths. Taken together, they say too much for that. My critics claim that the first is analytic, its denial is paradoxical or 'mere noise'; whereas the second is up for grabs. But I think that the two theses, indeed all three are on equal footing. (Lewis 1986, 99)

That is, first, (1) and (2) cannot be analytic truths, because they together entail a non-analytic thesis: everything (other than abstract objects) is spatially and temporally contiguous with us. Second, Lewis claims that all three are substantive claims which might be denied. We arrive at modal realism in three steps. First, we reject the consequence of conjoining (1) and (2), and thus posit the existence of worlds which are temporally and spatially disconnected from ours. Second,

we affirm (2) and thus conclude that these other worlds are non-actual. Third, we therefore reject (1), and then replace (3) with the claim that possibilities are other worlds rather than alternatives.

Turning to our parallels, if (1`) is read as the thesis that everything that exists now exists at the present time, then it and (2`) tougher do not entail anything controversial at all. If (1`) is read as the thesis that everything that ever did exist, does exist, or ever will exist, exits now, then it and (2`) together entail that everything (other than things outside of time) consists of whatever exists simultaneously with the present time. This is clearly, and unsurprisingly, too strong a consequence to make (1`) so read an analytic thesis, but neither common sense, the presentist, or the eternalist endorses this thesis.

If eternalism is analogous to possibilism, we might expect that the steps taken to arrive at the latter theses, possibilism, from our three theses of common sense about modality will parallel the steps taken to arrive at the former theses, eternalism, from our three parallel theses about time. So, we should expect the eternalist to deny the consequence of (1`) and (2`), accept (2`), and reject (1`).

Presumably the eternalist will not deny the claim that everything that exists now exists at the present time, so we ought to assume the other reading of (1`). Thus, the eternalist denies the thesis that everything (other than things outside of time) consists of whatever exists simultaneously with the present time. This would apparently make the eternalist's positive thesis into the claim that there did and will exist things which do not exist simultaneously with the present time. This is obviously true. We have already noted that both the presentist and the eternalist will accept (2`), and neither reading of (3`) seems to be a point of contention. Again, we have yet to arrive at a clear point of disagreement.

Perhaps there is some other way of understanding the theses (1`) – (3`), on which we can make out a substantive point of disagreement between the presentist and the eternalist. Unfortunately, it is not yet clear what this might be.

What if, instead, we treat actualism as analogous to eternalism and possibilism as analogous to presentism? As discussed previously, advocates of serious presentism posit the existence of entities that exist either at the present time or outside of time to explain why statements like "Dinosaurs roamed the earth" and "Plato wrote *The Republic*" are true. Perhaps the serious presentist also thinks these posits are to be used in analyzing our concepts of *having existed* and *going to exist*. Serious presentism, then, seems to have metaphysical, semantic, and conceptual aspects, some of which are inconsistent with eternalism. The main question of this dissertation is not whether serious presentism is a substantive thesis, however, but whether presentism is. Even if we agree that serious presentism is a substantive thesis, it does not follow that presentism is, unless series presentism helps us to understand the thesis that everything that exists, exists at the present time. I consider this possibility in the next chapter.

4.4 Concluding Remarks

In this chapter I have considered the claim that presentism and eternalism are analogous to actualism and possibilism, respectively, and hence that we can look to the debate over actualism and possibilism for a key to understanding the debate over presentism and eternalism. I have described some ways in which the respective positions do seem to be analogous. Ultimately I argued, however, that we cannot use the analogy with actualism and possibilism to help us understand presentism and eternalism as substantive theses.

CHAPTER 5. PRESENTISM AS SERIOUS PRESENTISM

In the last three chapters I have considered several ways of either trying to understand presentism as a substantive thesis, or trying to show that the debate over presentism and eternalism is substantive. I have argued that each of these attempts fails. In those chapters I have had occasion to mention *serious presentism*, according to which *only things existing at the present time (or outside of time) can exhibit properties or stand in relations*.[63] In this chapter I want to see if we can use serious presentism to help us understand presentism as a substantive thesis. Of course, it will not help us to simply add to presentism the additional thesis that only things existing at the present time can exhibit properties or stand in relations, for what we want to understand is the thesis that everything exists at the present time, and the addition of a further thesis does not help us do that.

What I want to explore here is whether presentism plausibly entails serious presentism. A thesis T entails a thesis T* just in case there is no way for T to be true and T* false. If T is not possibly true, then it entails any thesis T*. On the other hand, if T entails some T* but not others, it must be conceivable that T be true in some possible case. In the first case, let us say that T *vacuously* entails T*, and in the second case that T *non-vacuously* entails T*. If we know that a thesis T vacuously entails a thesis T*, then we know that T is not possibly true, and so T is not a substantive thesis. (That a thesis T is not possibly true does not automatically make it not a substantive thesis, but that we know it is not possibly true does).

On the other hand, suppose that we know that a thesis T non-vacuously entails a thesis T*, and suppose that T* is a substantive thesis. Recall from chapter 1 that a thesis is philosophically

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[63] I am being intentionally silent as to the tense of 'bear properties' and 'stand in relation'. These tense ambiguities will have an important role to play in this chapter.

substantive just in case philosophers can reasonably disagree as to whether it is true or false. If T*

is substantive, for any thesis T such that T non-vacuously entails T*, it must be conceivable that T

be either true or false as well. After all, if T were obviously necessarily true, it would only entail

other theses which were necessarily true, but by hypothesis T* is not. Hence, if we know that T

non-vacuously entails T*, and T* is substantive, T must be substantive as well.

Consequently, if we can show both that presentism non-vacuously entails serious

presentism and that serious presentism is a substantive thesis, then we will be justified in

concluding that presentism is a substantive thesis as well.[64] Furthermore, if we can understand

serious presentism as a substantive thesis, perhaps we can use it as a guide to help us understand

presentism substantively as well.

In this chapter I am going to consider some arguments for the conclusion that presentism

entails serious presentism. I will show that the basic strategy used in chapter 1 to argue for the

conclusion that presentism is not a substantive metaphysical thesis can be used to undermine such

arguments. For all I say here, it may in fact be the case that presentism, understood substantively,

entails serious presentism. If we do not already understand presentism substantively, however, we

have no reason to assume such an entailment.

Afterwards I will discuss one interpretation of the thesis that everything exists at the present

time which plausibly does entail serious presentism: everything that ever did or ever will exist,

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[64] Another possibility, suggested by Lawrence Lombard, is that presentism and serious presentism are derived (whether legitimately or fallaciously) from some further thesis, perhaps the thesis that an object x can be a member of a class or a constituent of a proposition at a time t only if x exists at t. I discussed this sort of view in chapter 2, section 2.4. If presentism and/or serious presentism are derived from such a thesis, then it would seem to be based on a mistake.

exists at the present time. I will briefly discuss the prospects of taking this as a substantive construal of presentism.

To begin, however, I want to briefly comment on the name 'serious presentism' as well as make a case that serious presentism is indeed a substantive thesis.

5.1   Serious Presentism, Terminology, and Substance

Here I want to briefly discuss the name 'serious presentism', and make a case that serious presentism is a substantive thesis. Recall that serious presentism is the thesis that only things existing at the present time (or outside of time) can exhibit properties or stand in relations. This is contrasted with *non-serious* presentism, according to which things which merely did or will exist at past or future times can exhibit (some) properties and relations, despite the fact that they do not exist (whatever that means).

It may be useful to say a bit to help clarify serious and non-serious versions of presentism. Advocates of both versions of presentism claim to agree that, with the possible exception of things that exist outside of time, everything that exists, exists at the present time (though whether this is an interesting thesis at all is precisely what we wish to know). What they disagree about is what sorts of things can exhibit properties or stand in relations. We can thus construe the difference between serious and non-serious versions of presentism as a disagreement concerning what can be the subject of a predicate at the present time. According to serious presentism, the domain of those objects which can be subjects of predication at the present time is the domain of objects which exist at the present time (or possibly outside of time). According to non-serious presentism, the domain of those objects which can be subjects of predication at the present time is the domain of all objects which ever did, do, or will exist at all times (plus anything outside of time).

The names 'serious presentism' and 'non-serious presentism' are unfortunate. The label 'non-serious presentism' suggests that this is not a genuine version of presentism at all, and thus that only *serious presentism* counts as presentism. For all we know at this point, it may turn out that presentism, correctly understood, does entail serious presentism. But that is something to be decided by argument.

I would prefer to call the view according to which only things existing at the present time can exhibit properties or stand in relations *relationally conservative presentism*. The view according to which everything exists at the present time, but things which merely did exist or merely will exist can nevertheless exhibit (some) properties and stand in (some) relations, I would prefer to call *relationally liberal presentism*. These names express in a straightforward way the central theses of these versions of presentism (assuming that both are legitimate versions of presentism), without any suggestion that only one *really* counts as presentism. However, the terms 'serious presentism' and 'non-serious presentism' are established in the literature: the name 'serious presentism' appears, for instance, in Bergmann (1999), Davidson (2003), Baron (2013a) (2013b) (2014), and Torrengo (2014), and the name 'non-serious presentism' appears in Hinchliff (1988) and Inman (2012).[65] To avoid confusion, I will follow the literature.

Is the claim that only things existing at the present time (or outside of time) can exhibit properties or stand in relations philosophically substantive? By the standards given in chapter 1, it is indeed substantive. In that chapter I said that a thesis is philosophically substantive just in case,

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[65] Hinchcliff (1988) claims that the names 'serious presentism' and 'non-serious presentism' are based on the named 'serious actualism' and 'non-serious actualism'. The former is actualism together with the thesis that only actual things can exhibit properties or stand in relations. The latter is actualism together with the thesis that merely possible things can exhibit (some) properties and stand in (some) relations. The naming convention behind serious and non-serious presentism is thus based on a presumed analogy with actualism.

There is an unambiguous statement of the thesis such that philosophers could reasonably

disagree as to its truth.

I submit that on at least one reading, serious presentism meets both conditions.

First, what is distinctive of serious presentism can be stated unambiguously. Of course, the

claim that only things existing at the present time can exhibit properties or stand in relations is in

fact ambiguous to tense, but if either or both disambiguations are substantive, then so is serious

presentism.

Let us consider the two readings of serious presentism. First, it could mean

Only things existing at the present time can *now* exhibit properties or stand in relations.

That is, if something does not exist now, it cannot exhibit properties or stand in relations now. For

instance, since Plato does not now exist, he cannot now exhibit the property *being the author of*

The Republic. Alternatively, it could mean

Only things existing at the present time can *ever* exhibit properties or stand in relations.

That is, if something does not exist now, it cannot ever exhibit any properties or stand in any

relations. For instance, since Plato does not now exist, he cannot *ever* exhibit the property of *being*

the author of The Republic.

If either of these disambiguations is philosophically controversial, meaning that

philosophers could disagree as to its truth, then serious presentism is a substantive philosophical

thesis. Our first disambiguation of serious presentism, according to which

Only things existing at the present time can *now* exhibit properties or stand in relations,

is, I submit, philosophically controversial. It is neither so obviously true that no philosopher could

disagree with it, nor so obviously false that no philosopher could fail to disagree with it.

The thesis that only things existing at the present time can now exhibit properties or stand in relations is not so obviously true that no one could deny it. Indeed, it seems false. Someone might reasonably insist that Plato *now* has the property *being the author of the Republic*, even though Plato does not now exist. Or consider the reference relation between a name and what it names. Someone might reasonably insist that the name 'Plato' in the statement "Plato wrote *The Republic*" now refers to a person who existed long ago. Yet if only things existing now can stand in relations now, then only what exists now can stand in a reference relation now, and thus only what exists now can be referred to. Thus, the thesis that only things existing at the present time can now exhibit properties or stand in relations entails 'Plato' does not refer to any such person as Plato.[66]

On the other hand, some philosophers claim to endorse serious presentism: for instance, Bigelow (1996), Markosian (2004), De Clercq (2006), Bourne (2006), and Crisp (2005) (2007). If actual philosophers believe the thesis that only things existing at the present time can now exhibit properties or stand in relations, it is not the case that this thesis is so obviously false that no philosopher could believe it. Thus, the thesis that only things existing at the present time can now exhibit properties now or stand in relations is philosophically substantive.

Or perhaps this is too fast. Suppose the skeptic is correct and presentism is not a substantive thesis. Some philosophers who mistakenly believe presentism is a substantive thesis go on to fallaciously derive serious presentism. A philosopher might reasonably insist that, if this is the case, serious presentism is not a substantive thesis.

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[66] If you think that there is an afterlife, replace "Plato wrote *The Republic*" with "Paul the pot was smashed," and consider the *reference* relation between the name 'Paul' and its referent, if anything.

In the first chapter, I claimed that a thesis is philosophically substantive just in case it can be stated unambiguously, and so stated the truth of this thesis is something over which philosophers could debate. Serious presentism is substantive by this standard. Of course, this very example may compel another philosopher to reject my account of philosophical substance. In developing my account of philosophical substance, I sought to make it so that not just any thesis would be substantive, but also that a substantive thesis could turn out to be either necessarily true or necessarily false, and that a thesis could be substantive even if the arguments for it are in fact fallacious. This was because it seems to me that at least some theses endorsed by philosophers are in fact necessarily false and supported by arguments that are ultimately fallacious. Perhaps there is a better account of what it is for a philosophical thesis to be substantive than the one I endorsed in chapter 1. Indeed, I take my proposal of what it is for a thesis to be philosophically substantive, to itself be philosophically substantive: philosophers may reasonably disagree with it. I will, however, assume the account of philosophical substance I offered is correct, because I do not have an alternative account to work with.

My intention in this chapter is to argue for the conclusion that serious presentism does not help us understand presentism as a substantive thesis. If we conclude at the outset that serious presentism is not a substantive thesis, then will have already rejected using serious presentism to help understand presentism as a substantive thesis. Thus, it is worthwhile to suppose, at least for sake of argument, that serious presentism is a substantive thesis, and see if we can make sense of presentism as a substantive thesis on that assumption.

5.2   Identification or Entailment?

The primary question I take up in this chapter is whether we can use serious presentism as a way to help us understand presentism. One option would be to simply *identify* presentism with

serious presentism. Indeed, some philosophers seem to presuppose that presentism simply is serious presentism. Thus, Markosian (2004) writes:

> If there are no non-present objects, then no one can now stand in any relation to any non-present object. Thus, for example, you cannot now stand in the relation of *being an admirer of* to Socrates, I cannot now stand in the relation *being a grandson of* to my paternal grandfather, and no event today can stand in any causal relation to George Washington's crossing the Delaware. (Markosian, A Defense of Presentism 2004, 51).

The move from presentism to serious presentism occurs in the first sentence, and is asserted as if no justification for the inference is required. Indeed, Markosian does not so much argue that presentism entails serious presentism, as he uses serious presentism to explicate presentism.

Stoneham (2009) identifies presentism with a consequence of serious presentism, though he is more conscientious about this than Markosian. After rehearsing the argument that I outlined in chapter 1 for the claim that the thesis that everything exists at the present time is not substantive, Stoneham proposes the following definition of presentism:

> If <p> is true, then there now exists some object x, such that <x exists> strictly implies <p>. (Stoneham 2009, 212)

Here, '<p>' refers to the proposition that P.

What does this amount to? Unfortunately, Stoneham does little to elaborate on this proposal. He does offer the following comment, in which 'existence*' is understood to express a tenseless sense of 'exists':

> Given [this principle] the presentist must either deny that <There was a British Empire> is true or give a semantics according to which its truth neither presupposes nor entails the existence* of the British Empire… [W]e can see that even though [this principle] still uses the dubious tenseless concept of existence*, it does reveal something important: the disputants disagree as to the relation between what exists now and what is true now. (Stoneham 2009, 211-212)

I will presume that Stoneham is using 'object' in a loose sense that includes states of affairs and facts.

This thesis of Stoneham's is admittedly not the same as the thesis that only things existing at the present time can now exhibit properties or stand in relations. However, the latter thesis entails Stoneham's, given the reasonable assumption that for a statement to be true requires it stand in some relation to that in virtue of which it is true.

We should not simply identify presentism with serious presentism, or with a consequence of serious presentism. First of all, to simply identifying presentism with serious presentism, or one of its substantive consequences, begs the question against advocates of non-serious presentism, like Hinchliff (1988) Inman (2012).

A second reason against simply identifying presentism with serious presentism is that in doing so we risk changing what presentism means. The thesis that, with the possible exception of things existing outside of time, everything exists at the present time, is apparently a thesis about what exists. The thesis that, with the possible exception of things existing outside of time, only things existing at the present time can exhibit properties or stand in relations, is apparently a thesis about what sorts of things can exhibit properties and stand in relations. Although there is plausibly a relation between what exists and what can exhibit properties and stand in relations, we should not assume that a given theses about what exists is identical to a given theses about properties and relations.

We want to see if we can make sense of presentism as a substantive thesis, rather than some other thesis that goes by that name. Whatever manner we might use serious presentism to argue that presentism is a substantive thesis, we ought to establish rather than simply assert that the two

theses are related in the required way. I think that the question of whether or not presentism entails serious presentism deserves more careful attention than that.

In the following sections I want to consider three arguments for the conclusion that presentism entails serious presentism. If there is such an entailment, this will establish that presentism has a substantive consequence, and hence is a substantive thesis.

I will argue, however, that the same line of argument used in chapter 1 to argue for the conclusion that presentism is not a substantive thesis can be used to refute each of the arguments I will consider here for the conclusion that presentism entails serious presentism.

A brief clarificatory comment is in order. I am not really interested, in this chapter, in determining whether or not presentism, understood as a substantive thesis, entails serious presentism. At this juncture, we have not yet decided if presentism can be understood as a substantive thesis at all, and therefore we cannot productively investigate this question. My interest in this chapter, rather, is to look at some of the main lines of argument for the conclusion that presentism entails serious presentism, and see if they help us come to see that presentism is in fact a substantive thesis, despite the argument for the contrary conclusion in chapter 1.

5.3   First Argument

The first argument for the conclusion that presentism entails serious presentism is of my own creation. I think it captures in a straightforward way what I take to be the main motivation for accepting the inference from presentism to relationally conservative presentism. The argument goes like this:

(1)   *Everything exists at the present time,*

(2)   *Only existing things can bear properties or stand in relations,*[67]

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[67] I intentionally leave the tense of this statement unspecified.

(3)   *Only things that exist at the present time can bear properties or stand in relations.*

Non-serious presentists will of course deny (2). Serious presentists will retort that (2) is a conceptual truth; that is, we can see that (2) is true by carefully reflecting upon the concepts it expresses. If (2) is a conceptual truth, this is a compelling argument for the conclusion that presentism entails serious presentism.

5.3.1   An Initial Defense of the Main Premise

Is (2) a conceptual truth? I want to briefly consider and reject three classes of apparent counterexamples. The first of these comes from myth and fiction: Pegasus is the steed of Bellerephon, but Pegasus does not and never did exist.[68] The second is that (2) is false if Meinongianism is true, and so some things can have properties and stand in relations which have some ontological status other than existence. The third concerns relations to mere possibilia: it seems I could have had an older sister, and someone might think I stand in the *younger than* relation to this non-existent person.

I do not think any of these really constitute genuine counter-examples to (2), and I hope by rejecting them to *strengthen* the intuitive support for (2). I must confess, though, that they do raise problems worthy of philosophical discussion. I cannot give a full account of truths involving myth and fiction, a comprehensive refutation of Meinongianism, or a robust account of modality here. My discussion will therefore be brief and incomplete, but I hope to establish that a reasonable person who thought (2) was a conceptual truth need not be overly troubled by such apparent counterexamples.

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[68] It occurs to me that the stories of Bellerphon and Pegasus might in fact trace back to a real person and a real horse. Perhaps stories of the horse's unusual swiftness evolved into fantastic tales of its ability to fly. In any case, no such horse ever existed that meets the description assigned to Pegasus in the myth.

Before looking at these three classes of apparent counter-examples to (2), I want to briefly mention and set aside a different class of possible counter-examples: those expressed by such statements as "Plato is now the author of *The Republic*," "The name 'Plato' now refers to Plato," "Susie admires Plato," and "Plato is dead." Each of these would appear to be a counter-example to (2). Advocates of serious presentism propose that such statements can be construed so that they do not really imply that non-existing things bear properties or stand in relations.[69] If some such proposal is successful, then such statements are not really counter-examples to (2). If all such proposals fail, statements like this would constitute a powerful reason to think serious presentism is false, and likewise presentism, if it entails serious presentism. If presentism does not entail serious presentism, then whether or not such statements pose a problem for serious presentism does not matter as far as the truth of presentism is concerned. In any case, serious presentists do not think such statements constitute genuine counter-examples to (2). I am doubtful that the proposals offered by serious presentists are successful, but now is not the time to consider them. I simply point out that serious presentists are aware of these apparent counter-examples, and reject them. If we wanted to assess the viability of serious presentism, it would be important to consider cases like these, but I put them aside here. Let us, then, turn to our other examples.

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[69] One may of course wonder what could motivate someone to deny that Plato now exhibits such properties as being the author of The Republic, being admired by various philosophers and philosophy students, and being dead. The most straightforward answer is that he or she is convinced that presentism is true, and that presentism entails serious presentism. Another possibility, suggested by Lawrence Lombard, is that these are consequences of the thesis that an object can be a member of a class at a time t only if x exists at t, or a constituent of a proposition at a time t only if x exists at t. I am inclined to think that it is by accepting presentism that some philosophers are motivated to accept this principle of class membership. Lawrence Lombard has commented that he suspects that philosophers start with the principle of class membership, and that assumption motivates the debate over presentism and eternalism. I will not try to resolve this disagreement here. In any case, I rejected this principle of class membership in chapter 2, section 2.4.

We can begin with myth and fiction, which strike me as the least problematic of the list. Either we think fictional entities exist or we do not. If we think fictional entities exist as, for instance, Kripke (2013) argues, it will not constitute a counterexample to (2) if fictional entities can bear properties or stand in relations, either to other fictional things or to non-fictional things.[70]

If we think, as I do, that fictional entities do not, never did, never will exist,[71] and indeed could not exist,[72] then we should deny that fictional things can have properties or stand in relations. There neither is nor ever was any such horse as Pegasus, but neither did anyone ever tame or have such a steed as Pegasus. There are really no facts about Pegasus at all. Nor are there facts about Sherlock Holmes, Luke Skywalker, or Spiderman. Instead, there are facts about various sources of Greek myth, like *The Iliad*, and various fictional stories, like the works of Sir Arthur Conan Doyle, the *Star Wars* films, comic books, and so on (Bigelow 1996). Thus, a statement like "Pegasus is the steed of Bellerephon" is *false* if considered without qualification, but true if taken as a statement about the myth. The statement "Spiderman lives in New York" is *false* if taken without qualification, but true if considered as a statement about stories found in comic books, movies, etc. In any case, whether we think there exist fictional entities exist or not, there is no reason to think fictional entities provide any counterexamples to (2).

Let us turn next to Meinongianism. According to Meinongianism, there *are* some things which do not *exist*. If Meinongianism were true, then non-existent things could have properties

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[70] Kripke thinks fictional objects are abstract entities. Michael McKinsey has pointed out in lectures that it seems absurd to think the ancient Greeks were worshipping abstract entities, and one similarly wonders how an abstract entity could have such properties as *being a horse* or *being tamed by someone*. I put this aside.

[71] Of course, real things can appear in works of fiction, but I mean purely fictional things.

[72] To be clear, I do not deny that there could exist entities which would be very much like things in fiction, such as winged horses and giant, flying, fire-breathing reptiles. I claim rather that if such things did exist, they would not be fictional.

and stand in relations. I think Meinongiasm is not true, though admittedly nothing I will say against it need force an advocate of the view to give it up. I hope in my brief discussion to cast sufficient doubt on Meinongianism that (2) is able to retain its intuitive strength.

First, if in the statement, *there are things which do not exist*, the words 'are' and 'exist' are synonymous, then this statement is contradictory. For in that case, this statement will be equivalent to *there exist things which do not exist*, or, *there are things which there are not*. The Meinongian will of course insist that 'are' and 'exist' are *not* synonymous, and that the former has a wider extension than the latter. But this seems to be contrary to the linguistic evidence. Furthermore, even if we set that linguistic evidence aside, the Meinongian has a burden of explicating just *what* 'are' means *other than* 'exists'.[73]

Second, Van Inwagen (2009) points out that it seems plausible to interpret the claim "Unicorns do not exist" as equivalent to "the number of unicorns is zero." If this is right, then on whatever sense of 'are' in which, according to the Meinongian, there are non-existent unicorns, there can be no number of non-existent unicorns. So, there are non-existent unicorns, but no number of them. Not even zero. This is absurd. Perhaps the Meinongian will respond by claiming that the statement "Unicorns do not exist" is really equivalent to "The number of *existing* unicorns is zero," which leaves unspecified the number of *subsisting* unicorns. But again, this seems contrary to the evidence: if you ask someone how many chairs there are in a room you expect that person to count the *existing* chairs.

Finally, we can cast doubt on Meinongianism by undermining motivation for the view. The Meinongian reasonably insists that some statements appear to be about non-existent things.

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[73] Of course, I mean when 'are' functions as a quantifier. The word 'are' can also function as a plural copula connecting a series of nouns to a predicate, whereas the word 'exists' has no such function.

For instance, "The golden mountain does not exist" appears to predicate *non-existence* of the golden mountain. Russell's (1905) theory of definite descriptions effectively gives us an alternative analysis of such statements. "The golden mountain does not exist" really means "Nothing is such that it is a golden mountain."[74]

What about possibilia? In chapter 4, I discussed the debate between modal *actualists* and *possibilists*. According to possibilists, merely possible things exist.[75] If this is right, then it does not violate (2) to suppose that something stands in some relation to a possible object, since merely possible objects exist. According to actualists only actual things exist, and hence there are no merely possible objects. If actualism is correct then it would violate (2) if any merely possible entities have properties or stand in relations.

Actualists will, I presume, try to give an account of statements which appear to treat mere possibilia as having properties or standing in relations such that these statements can be understood without such consequences. [76] Bergmann (1999) challenges such efforts, but I think those challenges can be met. Roughly, I would suggest that statements which appear to treat mere possiblia as having properties or standing in relations as in fact indicating what properties would be borne and what relations would obtain if, counterfactually, there were to be certain things which in fact do not exist. So, the claim that I could have had an older sister does not indicate that I stand in the *younger than* relation to a merely possible person, but rather that *if* I had an older sister, *then*

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[74] Kripke (1980) famously argues that names, at least typically, are not short for definite descriptions. Were this true universally, then true statements containing non-referring names would constitute a case in which the theory of definite descriptions does not resolve the motivation for Meinongianism. However, Michael McKinsey in lectures has argued that while in typical cases a name functions to introduce its referent, in certain special cases names do function as short for descriptions.

[75] The actualist, of course, will deny that these objects are really *merely possible*. See my discussion in 4.2.2.

[76] Hinchliff (1988) argues that non-actual things can exhibit properties and relations, denying the inference from actualism to serious actualism. In my discussion I assume the actualism does entail serious actualism.

I would stand in the younger than relation to who, in that case, would be an *actual* person. Hence, the actualist will claim this is not a case of genuinely attributing a property to a merely possible entity.

But how do we talk about mere possibilia at all? Different actualists could try to answer this question in different ways depending on their account of possible worlds, some of which I discussed briefly in chapter 4. I would propose that talk that is apparently about mere possibilia be understood in terms of actual things and their modal capacities. To say I could have had an older sister, for instance, is to indicate a certain capacity my parents had before I was born; specifically, to have a baby girl. By an object's modal capacities, I mean those facts concerning different ways that object could be, different kinds of states of affairs in which it could be a constituent, and different kinds of events of which it could be the subject. The modal capacities of an object thus include but are not limited to its causal capacities. The causal capacities of an object determine the kinds of causal processes in which the object could be involved given the features it actually exhibits, whereas its modal capacities determine the kinds of states of affairs and events in which it could be a constituent or a subject independently of what features it in fact exhibits.

If this proposal is going to work, then to say of something x that it has the modal capacity to Φ had better not be tantamount to saying that x stands in some relation to a merely possible Φ-ing. Prior (1962b) argues the claims about capacities do not need to be analyzed in terms of relations to possible events, by pointing out first, that the gap in "is capable of _ing" is to be filled with a verb rather than a noun, and second, that,

> In the strict sense of "are," there "are" no actions and no capacities, but things that act and things that are capable of acting. (Prior 1962b, 60)

However, Davidson's (2001) discussion of action statements provides some reason to think that there are actions.[77]

Fortunately, an initial defense of the claim that a modal capacity is not a relation between a thing and a possible action can be given that does not require that there are no actions. We have simply to give a workable analysis of what it is for something to have a modal capacity. As a rough start, we might claim that a statement of the form "S has the modal capacity to Φ" is true just in case it is consistent with all the essential facts about S that S Φs. A statement of the form "S has the physical capacity to Φ" is true just in case it is consistent with all the essential facts about S and the laws of physics that S Φs, excluding the fact, if it is a fact, that S does not actually Φ. Other senses of possibility can be accounted for in a similar way.

For instance, the statement "I am at home" while not consistent with my actual property of *being in a coffee shop*, is consistent with all my essential properties. Hence, I have the capacity to be at home, and consequently it is possible for me to be at home. I could have had an older sister because my parents were capable of conceiving before I was born, and it is consistent with all the intrinsic facts about them at the time that my mother could have given birth to a girl. This is a sketch, and clearly more would need to be said for a full account of possibility, but this is not the place for it.

So far I have tried to defend (2) by challenging four kinds of counterexample. Although I am not personally convinced by any of these counterexamples, I do not pretend to think that my brief discussion has wholly resolved all the issues involved. If some such counterexample is successful then (2) is not a conceptual truth and then consequently presentism does not

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[77] Chapter 3, section 3.1. I summarize Davidson's basic argument in a footnote.

conceptually entail relationally conservative presentism. However, I am going to proceed as if these counterexamples fail. I want to challenge this argument that presentism conceptually entails relationally conservative presentism in a different way.

5.3.2 Responding to the First Argument

Our first argument for the conclusion that presentism entails serious presentism, recall, goes like this:

(1)   *Everything exists at the present time,*

(2)   *Only existing things can bear properties or stand in relations,*

(3)   *Only things that exist at the present time can bear properties or stand in relations.*

In this section I will argue that we should not accept this inference.

Before giving my argument that we should reject (2), to help avoid confusion it may be useful to outline the argument first. The basic idea is this. Premise (2) is ambiguous to tense. On some readings, (2) is plausibly a conceptual truth. On those readings, however, it does not seem that presentism entails serious presentism unless we interpret presentism as the thesis that everything which ever did exist or ever will exist, exists at the present time. On the other readings, (2) is not a conceptual truth, and hence those readings do not show that presentism by itself entails serious presentism. Thus, if we disambiguate the tense on (2), this argument for the conclusion that presentism entails serious presentism breaks down. With that, I turn to the details.

Premise (2) is ambiguous between four different readings, depending on how we specify the tense of 'exists' and 'bear properties or stand in relations'. These readings are:

(2a)   *Only things that did, do, or will exist can bear properties or stand in*

relations now.

(2b)   *Only things that did, do, or will exist can ever bear properties or stand in relations at any time.*

(2c)   *Only things that exist now can ever bear properties or stand in relations at any time.*

(2d)   *Only things that exist now can bear properties or stand in relations now.*

This raises two questions. First, which of (2a) through (2d), if any, is a plausible candidate for a conceptual truth, even setting aside the potential counterexamples discussed in the previous section? Second, which of (2a) through (2d), if any, justifies the inference from (1) to (3)?

I submit that (2a) and (2b) are good candidates for being conceptual truths, at least if we exclude from consideration things, if any, which exist outside of time. (2a) is just the claim that an object which does not, never did, and never will exist does not, never did, and never will bear any properties or stand in any relations. If we exclude from consideration objects outside of time, this seems obviously true, since there never was nor will be such an object to have any properties or stand in any relations.

I think (2a) does fail if we include for consideration objects which exist outside of time, which is why I made the exception. Someone might think such objects do not constitute a counterexample to (2a). Perhaps such a person thinks timeless objects do not exist. I explained in chapter 2 why I do not see any good reason to think timeless objects cannot exist. Alternatively, someone might claim, as does Abouzahr (2013), that timeless objects may exist, but that they cannot stand in relations to things existing in time. But this seems wrong: the number 2 might be someone's favorite number one day, and cease to be so the next.[78]

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[78] I got this example from Lawrence Lombard.

For our purposes, we will simply understand (2a) and (2b) to be applicable only to objects that exist in time. With that restriction,

(2b)   *Only things that did, do, or will exist can ever bear properties or stand in relations at any time*,

seems obviously true. Note that (2b) entails

(2a)   *Only things that did, do, or will exist can bear properties or stand in relations now.*

That which cannot ever have properties or stand in relations, certainly cannot have properties or stand in relations now.

Does

(1)   *Everything exists at the present time,*

entail

(3)   *Only things that exist at the present time can bear properties or stand in relations.*

when conjoined with either (2a) or (2b)? It does if (1) is interpreted as

(1*)   *Everything that ever did or will exist, exists at the present time*

As pointed out in chapter 1, however, this is presumably not what the presentist thinks. Presumably the presentist does not believe (1*), but rather:

(1**)   *Everything exists at the present time, but there did and will exist things at other times.*

But (3) does not follow from either (2a) or (2b) conjoined with *this* thesis. According to (1**) there were and will be things which do not exist now, and according to both (2a) and (2b), things which did or will exist can have properties and stand in relations. So even if we suppose (2a) and (2b) are conceptual truths, it is not at all clear that they can be used to show that presentism conceptually

entails (3), unless we interpret presentism in a way which is contrary to how presentists intend it and which also seems obviously false.

Does (1) conjoined with either

(2c)   *Only things that exist now can bear properties or stand in relations ever*,

or

(2d)   *Only things that exist now can bear properties or stand in relations now*,

entail (3)? Recall that earlier I pointed out that the thesis *only things that exist at the present time can have properties or stand in relations* is ambiguous between *only things that exist at the present time can bear properties or stand in relations now*, and, *only things that exist at the present time can ever have properties or stand in relations at any time*. Thus, (3) is *ambiguous* between (2c) and (2d). Hence, one of the inferences, either from (2c) to (3) or (2d) to (3), must be circular.

Furthermore, on the plausible assumption that whatever exists necessarily exhibits some property when it exists, (2c) would entail that *everything that ever did or will exist, exists at the present time*. For suppose something x exists at some time other than now. Since x exists, x must exhibit some property, and then by (2c) x exists now. Presumably, however, this is not what the presentist believes.

Let us drop the assumption that everything which exists exhibits some property (other than existence, if that is a property) when it exists. Now, (2c) entails (2d) independently of (1), but (2c) is clearly not a conceptual truth. Given this, we should concern ourselves with the following two questions. First, do (1) and (2d) in conjunction entail (2c)? If yes, then is (2d) plausibly thought to be a conceptual truth?

Let us begin with the first question, do (1) and (2d) in conjunction entail (2c)? In other words, is the following argument valid?

(1)   *Everything exists at the present time.*

(2d)   *Only things that exist now can bear properties or stand in relations now.*

(2c)   *Therefore, only things that exist now can ever bear properties or stand in relations at any time.*

This inference is valid if (1) is interpreted as

(1*)   *Everything that ever did or will exist, exists at the present time.*

The inference is not valid, however, if (1) is interpreted as

(1**)   *Everything exists at the present time, but there did and will exist things at other times.*

For it is consistent with both (1**) and (2d) that *there was a person, Plato, who had the property of being a philosopher*, and this is inconsistent with (2c).

Hence, (1) conjoined with (2a), (2b), or (2d) entails (3) only when interpreted as (1*), but not as (1**), and (2c) obviously fails to be a conceptual truth. Thus, what I take to be the basic line of argument for the conclusion that presentism entails presentism is undermined by the same basic strategy used in chapter 1 to argue for the conclusion that presentism is not a substantive thesis. In the next two subsections I will briefly examine two other arguments for the conclusion that presentism entails serious presentism, and show that they are problematic in the same way.

5.4   A Second Argument

The second argument I want to consider for the conclusion that presentism entails serious presentism comes from Bergmann (1999). The setup for the argument goes like this. Bergmann formulates presentism as

(P) □(∀x)[x exists → x is present]. (Bergmann 1999, 125)

That is: necessarily, for any x, if x exists then x is present. Then Bergmann formulates (one version) of serious presentism as

(SP₂) □(∀x)(∀t)(∀P)[x exemplifies P at t → x is present at t]. (Bergmann 1999, 125)

That is: necessarily, for any x, for any time t, and for any property P, if x exemplifies P at t, then x is present at t. Finally, Bergmann gives the following principle of cross-temporal relation exemplification:

(◇CPE) ◇(∃x)(∃t)(∃P)[(x exemplifies P at t) & ~(x exists at t)]. (Bergmann 1999, 127)

That is, possibly there exists some x, there exists some time t, and there exists some property such that x exemplifies P at t & x does not exist at t.

With this setup, Bergmann proceeds to argue that given (P), (◇CPE) must be false. Bergmann's argument is as follows:

(P1) [(P) entails (SP₂)] is false only if (◇CPE) is true.
(P2) If (◇CPE) is true then (RESULT-P) is true:
    (RESULT-P) ◇ (∃t)(∃P)(It is true at t that there is an instance of P being exemplified by something but not by anything that *exists* at t).
(P3) □(∀t)(It is true at t that there is nothing except what *exists* at t).
(P4) If (RESULT-P) and (P3) are true then (RESULT-P)NEW is true.
    (RESULT-P)NEW ◇(∃t)(∃P)(It is true at t that there is an instance of P being exemplified by something, but not by anything at all).
(P5) Thus, if (◇CPE) is true then (RESULT-P)NEW is true.
(P6) But (RESULT-P)NEW entails that a contradiction is possible.
(P7) Hence, (◇CPE) is false.
(P8) Hence, (P) entails (SP₂). (Bergmann 1999, 127)

Is this argument valid?

I think the inference from (RESULT-P) and (P3) to (P4) is problematic. The phrase "It is true at t that there is nothing except what *exists* at t" in (P3) is ambiguous. It could be read as

It is true at t that there is nothing at t except what *exists* at t,

which makes it trivial. So read, (RESULT-P)$_{NEW}$ does not follow, since this is consistent with the claim that there were and will be things that exist at other times, and one of those things could be what exemplifies P. (RESULT-P)$_{NEW}$ does follow from (RESULT-P) and (P3) if the latter is read as

It is true at t that there never was nor will be anything except what *exists* at t,

but this is just the claim that we have said the presentist presumably does not believe, and which also seems obviously false.

5.5   A Final Argument

The final argument I want to consider for the conclusion that presentism entails serious presentism is from Davidson (2003). Davidson writes:

> I think that there is a strong argument that presentism entails serious presentism. Consider the following argument.
> [4][79] Necessarily, for any time t, whatever there is (in as temporally-neutral sense as one likes) exists at t. (presentism)
> [5] Necessarily, for any property F or relation R and time t, if F or R is exemplified at t, there is/are (in as temporally-neutral a sense as one likes) something or things that exemplifies or exemplify F or R at t.
> [6] Therefore, necessarily for any property F or relation R and time t, if F or R is exemplified at t, then F or R is exemplified by something or some things that exists or exist at t.
> [7] Therefore, necessarily, objects exemplify properties or stand in relations at a time only if they exist at that time. (M. Davidson 2003, 87)

What should we say about this argument?

The basic idea here is that, if a property or relation is ever exemplified, it must be exemplified by something. If presentism is true, then at any time only things that exist at that time

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[79] I have changed the numbering of Davidson's argument to avoid confusion.

exist. So, at any time, only things which exist at that time can exemplify properties and relations.[80]

The success of this argument hinges on how [4] is interpreted. Momentarily setting aside the parenthetical qualification, [4] is ambiguous. It could be read as

Necessarily, for any time t, whatever there is at t exists at t,

which is trivial. Alternatively, it could be read as

Necessarily, for any time t, whatever ever did or ever will exist, exists at t,

which seems obviously false. [4] and [5] together entail [6] if [4] is interpreted the latter way, but not the former.

What about the parenthetical qualification on [4]? Probably Davidson includes it to prevent [4] from being read as

[4*] Necessarily, for any time t, whatever there is *then* exists at t,

which would be trivial.

In chapter 2, I discussed the idea that presentism is a thesis about what exists in a temporally neutral sense, and in chapter 3 I discussed the idea that presentism is a thesis about what falls within the range of the most unrestricted temporal quantifier. I argued that, unless we are given some positive construal of how to understand this sort of claim, it might mean that everything that ever did or ever will exist, exists at the present time, or its meaning is too unclear to be helpful. On the first interpretation, [4] becomes

[4**] Necessarily, for any time t, whatever ever did or will exist, exists at t.

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[80] Inman (2012) responds to the argument by following Hinchliff (1988) in distinguishing between an existential quantifier and a particular quantifier. To express that something which does not exist has properties or stands in relations we use the particular quantifier but not the existential quantifier.

Presumably this is not what the presentist thinks. Perhaps there is some other reading of the qualification, but what that reading is we do not know. Thus, this argument for the conclusion that presentism entails serious presentism, like those before, can be undermined using the same strategy we used in chapter 1 to argue that presentism is not a substantive thesis.

Another approach to responding to Davidson's argument for the conclusion that presentism entails serious presentism is to focus not on [4], but

[5] Necessarily, for any property F or relation R and time t, if F or R is exemplified at t, there is/are (in as temporally-neutral a sense as one likes) something or things that exemplifies or exemplify F or R at t.[81]

The most obvious reading of the parenthetical clause makes [5] into the following:

[5*] Necessarily, for any property F or relation R and time t, if F or R is exemplified at t, there is, was, or will be something or things that exemplify or exemplifies F or R at t.

If we are excluding from consideration things existing outside of time, this seems obviously true.

Is

[6] Therefore, necessarily for any property F or relation R and time t, if F or R is exemplified at t, then F or R is exemplified by something or some things that exists or exist at t,

entailed by [4] and [5*]? It is if [4] is read as

Necessarily, for any time t, whatever ever did or will exist, exists at t.

However, this is presumably not what the presentist thinks.

Alternatively, [5] could be read as:

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[81] Eric Hiddleston pointed out that the non-serious presentist might challenge premise [5].

[5**] Necessarily, for any property F or relation R and time t, if F or R is exemplified at t, there is/are at the present time something or things that exemplifies or exemplify F or R at t.

Now, this together with [4] would entail [6]. However, [5**] is just an assertion of serious presentism. Thus, construed in this way, the argument just begs the question.

5.6   A Possibility for Understanding Presentism?

We have seen that it is possible to infer from the claim that

Everything exists at the present time

to the conclusion that

Only things that exist at the present time can exhibit properties or stand in relations,

if we interpret the former claim as

Everything that ever did or ever will exist, exists at the present time.

I claimed in chapter 1, and several times in this chapter, that this seems obviously false, and presumably it is not what the presentist intends by her thesis.

In chapter 4, I pointed out that philosophers posit special entities, possible worlds, to explain why true statements about possibility and necessity are true. For a possibilist, a possible world might be a set of possible entities, perhaps members of a concrete world which is causally, spatially, and temporally isolated from this one, as in Lewis (1986). For an actualist, a possible world is something abstract (Van Inwagen 1986), like a possible arrangement of the fundamental entities which compose the world (D. M. Armstrong 1986) (Wittgenstein, Pears and McGuiness 2001), or a maximally consistent set of propositions, or a maximal states of affairs (Plantinga 1974). In any case, possible worlds are posited as explaining how some statements about what is merely possible can be true.

Along these lines, we might imagine a view according to which everything which ever did exist or ever will exist, exists at the present time, and at the present time (or outside of time) there exist certain objects in virtue of which some statements about 'the past' and 'the future' are true. To the objection that the thesis that

Everything that ever did or ever will exist, exists at the present time

Is obviously false, someone who adopted this view might retort that this seems obviously false only because it is taken to entail that statements like "Dinosaurs roamed the earth" and "Plato wrote *The Republic*" are untrue. This assumption, however, is incorrect: although everything that ever did exist or ever will exist, exists at the present time, included among these things are entities which make these and various other statements about 'the past' and 'the future' true.

I must confess to finding this view unbelievable. It may not be impossible for everything which ever did exist, obtain, or occur to exist, obtain, or occur at a single time, for it may not be impossible for there to only ever be a single moment of time. However, I do not think a world like that could also contain entities like us. However, we should consider if any presentists might in fact believe just this.

In fact, serious presentists do rely on what exists at the present time (or outside of time) to explain why statements like "Dinosaurs roamed the earth" and "Plato wrote *The Republic*" can be true. I will briefly survey some of the proposals in the literature. It is not my intention here to either endorse or challenge any of these proposals. My intention, rather, is to see if it is likely that any presentists believe that everything that ever did or will exist, exists now, but some statements apparently about the way things were or will be, like "Dinosaurs roamed the earth," and "There will be human colonies on Mars" are nonetheless true. I will conclude that there is no good reason to think that any actual presentists believe this.

Ludlow (1999) claims that the truth-maker for a given past-tensed statement is the presently existing evidence associated with that statement:

> [W]hen we say that a proposition was true or will be true, exactly what are we getting at? … [A] semantic theory that accounts for an agent's semantic knowledge must show how portions of that language are learned from the evidence available to the language learner. But now consider how we learn the use of past-tense expressions such as…
> Dinosaurs roam the earth.
> We do not evaluate this sentence by imagining some time earlier than now and determining whether at that time [this sentence] is true. Rather, we evaluate [this sentence] by right now conducting a sort of investigation that is appropriate for past-tensed statements like [it]. (For example, we might study fossil records). (Ludlow 1999, 98-99).

Ludlow goes beyond the epistemic claim that we look at presently existing evidence to decide the truth of past-tensed and future-tensed statements; rather, Ludlow claims that such evidence is what makes such statements true or false.[82]

According to Lucretian presentism (Bigelow 1996), the truth-makers for past-tensed statements are the tensed properties of presently existing objects. On this view, "Dinosaurs roamed the earth is true because the earth, or various locations on the earth, have the property *being where some dinosaur roamed*. The statement "Plato wrote *The Republic*" is true because some location has the property *being where Plato wrote The Republic*.

Some philosophers (Bourne 2006) (T. Crisp 2007) propose that the truth-makers for past-tensed statements are abstract objects, ersatz times, which stand in ersatz before and after relations to one another. These ersatz times are supposed to be somewhat analogous to propositions or possible worlds.

The versions of ersatzer presentism offered by Bourne and Crisp differ slightly. Crisp (2007) writes that an ersatz time is:

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[82] Eric Hiddleston points out that this is just verificationism.

A certain sort of maximal abstract object: intuitively, an abstract representation of an instantaneous state of the world. (T. Crisp 2007, 99)

Crisp expounds upon this as follows:

Let us think of a time as any proposition that satisfies the following definition:
x is a time = df. For some class C of propositions such that C is *maximal* and *consistent*, x = $[\forall y(y \in C \supset y$ is true$)]$,
where (i) a class C of propositions is maximal iff, for every proposition p, either p or its denial is a member of C, (ii) a class C of propositions is consistent iff, possibly, every member of C is true, and (iii) '$[\forall y(y \in C \supset y$ is true$)]$', I assume, denotes a tenseless proposition. (T. Crisp 2007, 99-100)

Thus, for Crisp an ersatz time is a maximally consistent set of tenseless propositions which are

true.

Bourne's (2006) explication of his conception of ersatz times begins with a distinction

between two types of present-tensed propositions. Those which contain past or future-tense

operators, like "It is now the case that it was the case that Socrates is sitting" (Bourne 2006, 53),

he calls embedded propositions or *e*-propositions. Those which do not contain past or future-tense

operators, like "Socrates is sitting" (Bourne 2006, 53) he calls unembedded or *u*-propositions. On

Bourne's view ersatz times are construed using *u*-propositions:

I propose we construct times using maximally consistent sets of *u*-propositions, which intuitively we can see as those *u*-propositions that are true at that time. These propositions I take to give a complete, maximally specific, description of what is true at that time… Times I take to be more than sets of present-tensed propositions: first, they consist of sets of *u*-propositions; second, they also contain a 'date'. That is, I take times… to be ordered pairs of the form $t = <\mu, n \in \mathbb{R}>$, where μ is a set of *u*-propositions and $n \in \mathbb{R}$ is a date. (Bourne, A Future for Presentism 2006, 53-54)

Thus, for Bourne an ersatz time is a maximally consistent set of unembedded tensed propositions

and a date. On either construal, "Plato wrote *the Republic*" is true because a certain ersatz time

represents Plato's writing of *The Republic*.

Rhoda (Rhoda 2009) claims that the truth-makers for past-tensed statements are memories

in the mind of God.

Such examples illustrate how serious presentist try to account for the truth of statements like "Dinosaurs roamed the earth" and "Plato wrote *The Republic*" utilizing only what exists at the present time or outside of time. It does not follow from this, however, that these philosophers believe that everything that ever did or ever will exist, exists at the present time. Indeed, Fiocco's (2007) account of the truth of past-tensed statements seems to directly contradict this idea. Fiocco proposes that the truth-makers for past-tensed statements are a special class of timeless facts, which have their natures in virtue of what occurs at each successive moment in time.

> One can construe facts as simple, that is, non-structured entities that, being immutable, do not exist in time. A specific fact would not have existed without the moment it is about; to this extent, facts depend on moments… Atemporal facts of this sort are the basis of truths about the past, as such they are the truth-makers of past-tensed statements. (O. M. Fiocco 2007, 193)

On this proposal, the truth-maker for "Plato wrote *The Republic*," is an atemporal fact which exists and has the nature it has because there was a person, Plato, who wrote *The Republic*. Fiocco's account for how past-tensed statements can be true thus appears to presuppose that there were times before the present moment.[83]

The proposal that everything which ever did or ever will exist, exists at the present time, but that some statements about 'the past' and 'the future' are still true seems absurd. It would be uncharitable in the extreme to interpret a philosopher as endorsing a view which seems obviously false, unless he or she endorsed that view explicitly, or unless it was a straightforward consequence of what he or she endorsed explicitly. However, no construal of presentism I have encountered in

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[83] Actually, I think Fiocco's proposal is not really a version of serious presentism at all. For if "Plato wrote *The Republic*" is true because of a timeless fact, which has the features it does because during some previous time, Plato wrote *The Republic*, it seems that some relation holds between the sentence and Plato's writing of *The Republic*, which is not occurring at the present time. However, without the assumption that presentism entails serious presentism, it is clear what would motivate Fiocco to posit such timeless facts as truth-makers.

the literature contains explicit commitment to the view discussed here. This thesis is stark enough that if anyone endorsed it, I suspect that he or she would be explicit about it. For that reason, I reject this way of trying to understand presentism as a substantive thesis.

5.7   Concluding Remarks

My goal in this chapter was to see if we could use serious presentism, according to which only things existing at the present time can exhibit properties or stand in relations, to help us understand presentism, according to which everything exists at the present time, as a substantive metaphysical thesis. I considered three arguments for the conclusion that presentism entails presentism, and I showed that each of these arguments could be undermined by the same basic strategy used in chapter 1 to argue for the conclusion that presentism is not a substantive thesis. Then I considered the prospects for identifying presentism with the thesis that everything that ever did exist or ever will exist, exists at the present time, but that some statements apparently about the past and future are nonetheless true. I rejected construing presentism in this way, since it seems obviously false and is not, to my knowledge, endorsed by anyone.

CHAPTER 6. THE *AS OF*/*AT* DISTINCTION AND FORMULATING PRESENTISM AND ETERNALISM

The main question of this dissertation is whether the debate over presentism and eternalism is substantive. In previous chapters I have considered various proposals for how to understand presentism as a substantive thesis, as well as a line of argument for the conclusion that it must be. Each of these I have rejected as insufficient to show that the debate is substantive.

In this chapter I want to offer my own proposal for how to understand presentism and eternalism. In the next chapter I will argue for the conclusion that presentism and eternalism so construed are indeed substantive, and offer a rebuttal of the arguments for the conclusions that presentism and eternalism are not substantive theses from the first chapter.

In order to state presentism and eternalism as substantive, opposed philosophical thesis, I first introduce and explain a distinction between two ways of talking about what exists, obtains, or occurs with respect to a given time, which I will refer to as the distinction between what exists, obtains, or occurs *as of* a given time and *at* that time. Since this distinction is crucial to making sense of presentism and eternalism as substantive thesis, most of this chapter is spend on explaining it. To begin with, I illustrate the distinction in a general and rather informal way. Afterwards I offer a formal semantics for the distinction. Finally, I offer statements of presentism and eternalism utilizing the distinction.

6.1   The *As of*/*At* Distinction, Informally

I want to introduce the distinction between what is the case *as of* a time and what is the case *at* a time in an informal way. I begin by explaining the *as of*/*at* distinction in a general way that can apply to any coordinate system, or anything which can be represented by a coordinate

system, using what colors objects have as my example. Then I will explain the distinction with respect to time.

6.1.1   A Colorful Illustration

Here I illustrate the *as of*/*at* distinction in a general way. Take any coordinate system, or anything which can be represented by a coordinate system: moments, locations, colors, temperatures, and so on. We may associate some entity with the points in each of these coordinate systems: events occurring at each moment, objects located at each location, the set of objects that have a given color or a given temperature, and so on. Finally, we take some such set of points in some coordinate system and all the objects assigned to the points in that set, and designate some point in the set as being uniquely privileged. We say that *as of* P* there is an object x *at* P, just in case in the set of coordinates with P* designated as uniquely privileged, x is assigned to the point P in that set. Once a set with a uniquely privileged point is specified, we can assert that there is an object x at any point within the set, meaning that x is assigned to that point, in that set.

For instance, we may have two sets S = [Red, Blue, Green] and S* = [Yellow, Purple Orange], such that blue is the uniquely privileged member of S and Orange the uniquely privileged member of S*. Whatever it is in virtue of which blue and orange are the uniquely privileged members of their respective sets need not concern us at this point, and may well be purely a matter of stipulation. For each set we may suppose we have an associated board, and some tacks which we can use to represent objects. The board associated with set S has sections colored red, blue, and green. The board associated with set S* has sections colored yellow, purple, and orange.

The clause 'as of blue' picks out the set with blue privileged, or the associated board, and the clause 'as of orange' picks out the set with orange privileged, or the associated board. Once a

given set or board is specified, the 'at' clause is used to indicate the colors of objects. [84] To say that there is some object *as of* blue is to say that some object has one of the colors included in set S, that is, that the object is either red, blue, or green. Similarly, to say that there is some object *as of* orange is to say that the object is one of the colors included in the set S*, that is, that the object is either yellow, purple, or orange.

In set S, to Red is assigned all the red things, to Blue all the blue things, and to Green is assigned all the green things. As of Blue, every red object is said to be *at* Red, every blue object is said to be *at* Blue, and every green object is said to be *at* Green. So, if there is a red apple, we say that as of blue there is an apple at red. We represent this by placing the tack standing for the apple on the red portion of the blue board. If a certain leaf is green, we will say that as of blue the leaf is at green. We represent this by placing the tack standing for the leaf on the green portion of the blue board.

In set S*, to Yellow is assigned all the yellow things, to Purple is assigned all the purple things, and to Orange is assigned all the orange things. On the corresponding board we place a tack for a banana on the yellow section, and a tack for a plumb on the purple section. Thus, as of Orange, at yellow there is a banana and at purple there is a plumb.

The statement,

As of blue there is an apple at red,

is, admittedly, not a piece of normal English. It is, however, a comprehensible statement given the meaning which we have assigned to 'as of' and 'at'. Used in this context, it means what we might express with the statement

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[84] For simplicity of presentation I make the assumption that everything is only one color.

There is an apple on the red section of the blue board.

We use 'as of' to pick out a particular board, and then 'at' to talk about particular colors associated with that board.

In other words, we can say that there are objects of a certain color as of a certain board just in case that board contains the color of those objects. Since the board with the color orange privileged contains the color yellow, we say that as of orange there are bananas. Since the board with the color blue privileged does not contain the color yellow, we do not say that as of blue there are bananas. Thus, *as of* Orange there are bananas, and in particular they are *at* Yellow; but *as of* Blue it is not the case that there are bananas, since the color yellow is not associated with the board with blue privileged.

6.1.2   Time

With this background, I turn to explain how the *as of*/*at* distinction applies to *time*. At this juncture, the distinction is purely conventional and without metaphysical significance. This will provide the reader a chance to understand the distinction between what is the case as of a time and at a time in a metaphysically innocuous way. Later the distinction will take on metaphysical significance, but I introduce it neutrally.

We assign objects, events, states of affairs, and propositions to times. An object, state of affairs, event, or proposition is said to be *at* the time to which it is assigned, just as, in our earlier example, a tack is at the color on which it is placed. We arbitrarily group some of these times together into sets, similarly to the way we arbitrarily grouped colors together in our earlier example. Each set of times is assigned a privileged member, as was each set of colors assigned a privileged color. To say that as of a time t something exists, obtains, or is occurring is to assert that the time to which the object, state of affairs, event, or proposition is assigned is included in the set

with t privileged, just as to say that as of orange there is a banana is to assert that there is a banana on the board with orange privileged. In other words, to say something exists, obtains, or occurs *as of* a time t is just to say that it exists, occurs, or obtains *at* some time in the set which contains t as the uniquely privileged member.

Suppose we take two arbitrary sets of times, each with a privileged member. One of these sets is

[399 BCE; January 10, 49 BCE; September 17, 1787],

with January 10, 49 BCE privileged. The other set is

[August 25, 1776; June 18, 1851; 1931],

with June 18, 1851 the uniquely privileged time.

Given this assignment of times to sets, each with a privileged member, we may correctly say that *as of* January 10, 49 BCE, Socrates drinks hemlock *at* 399 BCE, Caesar crosses the Rubicon *at* January 10, 49 BCE, and that the Constitution of the United States is being signed *at* September 7, 1787. However, it would be incorrect to say that *as of* January 10, 49 BCE that David Hume is dying at August 25, 1776, that Napoleon is losing the battle of Waterloo at June 18, 1851, or that the Gödel is publishing the first incompleteness theorem at 1931. That it is incorrect to say these things is, of course, a consequence of stipulation: we have decreed that the times at which these events take place be associated with June 18, 1851, rather than January 10, 49 BCE.

We may correctly say *as of* June 18, 1851, David Hume dies *at* August 25, 1776, Napoleon loses Waterloo *at* June 18, 1851, and Gödel publishes the first incompleteness theorem *at* 1931. However, it would be incorrect to say *as of* June 18, 1851, that Socrates is drinking hemlock at 399 BCE, that Caesar is crossing the Rubicon at January 10, 49 BCE, or that the Constitution of the United States is being signed at September 17, 1787. As before, this is entirely a consequence

of our stipulating that certain events should be associated with a certain time, and has no metaphysical significance. Later, I will make the case for a metaphysical basis for assigning certain times to certain sets in this way, which will make the distinction metaphysically significant.

Each set of times has a uniquely privileged member. We now give this a meaning: for each set of times, the uniquely privileged member is to be considered *present*. Thus, if a certain set S contains a time t as its privileged member, then S consists of the set of times which we have associated with time t being present. Thus, the statement

As of t, I have a headache,

means that we are treating time t as the present time, and that I have, had, or will have a headache at some time which is associated with t being the present time. Similarly, the statement

As of January 10, 49 BCE, Socrates is drinking hemlock at 399 BCE

means that we are treating January 10, 49 BCE as the present time, and that during a time which we have arbitrarily associated with it, specifically, 399 BCE, Socrates is drinking hemlock.

As discussed briefly in chapter 1,[85] philosophers disagree on what it is for a time to be present. According to the tenseless theory of time, there is no interesting metaphysical feature, *being present*, which each time successively acquires and loses. Rather, statements to the effect that some time is present function to indicate the time during which the sentence is tokened. Thus, to say that something is present is to say it exists, obtains, or occurs simultaneously with your talking about it. On the tenseless theory of time, time is *static* in nature. According to the tensed theory of time, each time acquires and then loses the feature *being present*, and this feature is not logically reducible to facts about simultaneity. On the tensed theory of time, time is *dynamic* in

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[85] Section 1.2.2.

nature. Fortunately, in order to understand the distinction that interests us, it is not necessary to assume any particular account of what it is for a time to be present.[86]

6.1.3   Truth Conditions (Informal)

At this juncture, I will give informal truth conditions for statements containing *as of* and *at* operators. Later I will give formal conditions for such statements being true in a model of a temporal logic incorporating the *as of*/*at* distinction.

In general, we have the following schema. A statement of the form

As of t, P

is true just in case

In the set of times with t privileged, P is, was, or will be the case.

That is, *when t is the present time, P is, was, or will be the case at some time associated with t.*

A statement of the form

As of t, P at t`

is true just in case

In the set of times with t privileged, for some time t` in the set, P is the case at t`.

That is, *when t is the present time, P is the case at some time t` associated with t.*

Any statement without an 'as of' operator is to be understood as implicitly picking out the set of times, the privileged member of which is the time of tokening. Thus,

P at t,

has the same truth-conditions as

As of the present time, P at t.

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[86] I do not mean that presentism has no implications for what it is for a time to be present. I simply mean that the *as of*/*at* distinction can be understood without taking a standing on what it is for a time to be present.

In other words, it will be true just in case, in the set of times in which is privileged the time of tokening, for some time t in that set, P is the case at t. Generally, a token

P at t

is true if uttered as of any time t` such that t is a member of the set of times with t` privileged, and P is the case at t. If a token is uttered as of a time t` such that either t is not a member of the set of times with t` privileged, or t is in that set of times but P is not the case at t, the token is not true.

A statement of the form

As of t, there exists some F

is true just in case

In the set of times with t privileged, there did, does, or will exist something which is an F,

That is, *when t is the present time, there did, does, or will exist something at some time associated with t, which is an F.*

A statement of the form

As of t, there exists some F at t`

is true just in case

In the set of times with t privileged, for some time t` in the set, there exists something which is an F at t`.

That is, *when t is the present time, there is, was, or will be something at t` which is an F.*

A statement of the form

As of all times, P

is true just in case

For any time t, in the set of times with t privileged, P is, was, or will be the case.

That is, *for any time t, when t is the present time, P is, was, or will be the case at some time associated with t.*

    A statement may contain one 'as of' operator within the scope of another. Each occurrence of an 'as of' operator picks out a set of times with a privileged member, and the set of times picked out by each 'as of' operator may be different. Let us briefly go over how this works. We begin with all 'as of' operators other than 'as of the present time', for which there are special rules. So, the following discussion applies to such operators as 'as of sometime there was', 'as of five minutes ago', 'as of some time there will be', 'as of five minutes from now', and so on. If one such operator appears within the scope of another, the set of times picked out by the operator with smaller scope will depend upon the set of times picked out by the operator with larger scope.[87] I will explain this through an example.

    Consider the statement

    As of ten years ago, Sally is beginning her studies and as of five years later, she is giving a rousing speech.[88]

We can analyze this statement in a step-by-step fashion, as follows. First, the outermost operator picks out a set of times in which a certain time is privileged, based on the time which is present when the sentence is tokened. Thus,

    As of ten years ago, Sally is beginning her studies,

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[87] More accurately, the set of times picked out by the operator with smallest scope will be a function of the set of times picked out by the operator of next largest scope, and the set of times picked out by that operator will be a function of the set of times picked out by the operator with next largest scope, and so on.

[88] In this sentence, the scope of 'As of ten years ago' is the entire rest of the sentence: 'Sally is beginning her studies and as of five years later, Sally is giving a rousing speech'. If we wanted the scope of 'As of ten years ago' to be only 'Sally is beginning her studies', we would write (note the commas): 'As of ten years ago, Sally is beginning her studies, and, as of five years ago, Sally is giving a rousing speech'.

means that in the set of times associated with some time ten years before the set of times associated with the time this sentence is tokened, *Sally is beginning her studies*.

Second, the tense operator taking small scope will pick out a set of times based on the set of times associated with the former operator. Thus, recall our original statement:

As of ten years ago, Sally is beginning her studies and as of five years later, Sally is giving a rousing speech,

The clause 'as of ten years ago' picks out a set of times, the privileged member of which is ten years before the privileged member of the set of times at which this is tokened. The clause 'as of five years later', because it appears within the scope of this earlier 'as of' operator', picks out a set of times, the privileged member of which is five years after the time privileged on the set picked out by the former operator.

The statement

As of ten years ago, Sally is beginning her studies and as of five years later, Sally is giving a rousing speech,

entails

As of ten years ago, Sally is beginning her studies, and, as of five years ago, Sally is giving a rousing speech.

In this latter sentence, the clause 'as of five years ago' is not within the scope of 'as of ten years ago'. So, it assigns 'Sally is giving a rousing speech' to a set of times the privileged member of which is five years before the privileged member of the set associated with the time of utterance. Clearly, for times t, t`, and t``, each of which is privileged on some set, if time t is ten years before time t`, and time t`` is five years after time t, then time t`` will be five years before time t`. Thus, the first indented sentence entails the second.

Next we turn to statements in which 'as of the present time' appears within the scope of another tense operator. An instance of 'as of the present time' will pick out the set of times in which is privileged the time which is present when the sentence is tokened, even if 'as of the present time' is within the scope of another 'as of' operator. In other words, an instance of 'as of the present time' serves to shield off whatever appears within its scope from previous 'as of' operators. Thus, consider the statement

As of 50 million years ago, as of the present time the person who is President is supremely unqualified.

In this sentence, the operator 'as of the present time' assigns 'the person who is President is supremely unqualified' to the time which is present when this sentence is or was tokened.

Of course, in the previous indented sentence, 'as of 50 million years ago' is extraneous. The very same thing could have bene expressed with

As of the present time, the person who is President is supremely unqualified.

Indeed, adopting the convention that statements without 'as of' operators are to be understood as being about that set of times in which is privileged the time of tokening, 'As of the present time' is likewise extraneous. Thus, we could have simply said

The person who is President is supremely unqualified.

However, there are other statements in which 'as of the present time' appears within the scope of a different 'as of' operator, where these operators are not extraneous.

Consider, for instance, the statement,

As of last November, I voted for the first woman candidate for President endorsed by a political major party, and as of the present time, I wish that person would be the current President of the United States.

In this sentence 'I voted for the first woman candidate of the President endorsed by a major party' is assigned to the set of times associated with some time last November being present, and 'I wish that person was the current President of the United states' is assigned to the set of times, the privileged member of which is present during the time of tokening. If we were to remove the clause beginning with 'As of last November', the result would be

As of the present time, I wish that person would be the current President of the United States,

which is ungrammatical. Thus, the outer 'as of' operator is not extraneous.

6.1.4 A Monstrous Objection?

At this juncture, I would like to respond to a potential objection that might be raised against the distinction between what exists, obtains, and occurs *as of* and *at* a time. Following the above stipulations, an appearance of 'as of' in a statement effectively functions as an operator treating whatever moment of time is within its scope as the present, regardless of the time at which the statement is tokened. This makes the 'as of' operator into what Kaplan (1989) calls a *monster*,[89] and Kaplan claims that monsters do not and cannot exist in English.[90]

According to Kaplan, sentences containing indexicals have two kinds of meaning, *content* and *character*. The content is what a sentence containing an indexical is used to express on a given occasion of use. For instance, if the sentence "There will be an exam on tomorrow" is uttered on Wednesday, the content is *there will be an exam on Thursday*, but if it is uttered on Thursday, the content is *there will be an exam on Friday*. The character of a sentence is rule, set by linguistic

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[89]Thanks to Eric Hiddleston for bringing Kaplan's discussion of monsters to my attention.
[90] Kaplan admits that we can affect the scope of an indexical by putting it within quotations, thus mentioning it as opposed to using it.

conventions, which determines the content of a sentence on any occasion of use. To continue the example "There will be an exam tomorrow" expresses a truth on a given time of utterance just in case there is an exam on the day after.

On Kaplan's picture, indexical terms and phrases act on content: what is expressed by the sentence "It is raining" can be altered by prefixing 'yesterday'. Indexical terms and phrases cannot, according to Kaplan, act on *character*. Such operators Kaplan calls *monsters*. As a possible example he offers the following, where a context is a possible context of utterance:

In some contexts it is true that I am not tired now. (Kaplan 1989, 510)

Were 'in some contexts' legitimately a monster, this sentence would mean that there are, were, or will be times such that I am not tired *at those times*. Kaplan rejects as illegitimate this reading of the sentence, insisting that the indexical 'now' always take primary scope. Thus, 'now' introduces the time of utterance, making the indented sentence equivalent to "I am not tired now," and hence rendering 'in some contexts' otiose.

My 'as of' operates on character. For in the statement

As of some time, I am not tired now,

'now' is within the scope of 'As of some time', and so refers to the time being treated as present. Thus, this has the same meaning as:

When a certain time t is present, I am not tired then.

Is it a problem that the 'as of' operator is a monster? I do not think so. Even if it were a fact that English does not contain monsters, I see no good reason why monsters could not be introduced into English with the appropriate stipulations. English is flexible and adaptable.

Moreover, English *already* contains monsters. The following is an example of what linguists call the *historical present* or *dramatic present*:[91]

I remember it like yesterday. There we are all then[92] sitting together at the table, the professor goes up the board and starts writing. John is at my left, Sally at my right…

The second sentence (and presumably whatever material has been omitted) is grammatically present tensed. Yet clearly the speaker is not intending to express the way things are *during his or her utterance*. He or she is intending rather to describe how things used to be during the time indicated by the first sentence. The word 'then' in the second sentence thus functions as a Kaplanian monster in English, making the present-tensed clause "there we are all sitting together at the table…" be about some time in the past.

Consider also a passage beginning like this:

Tomorrow will go like this. I am then sitting in class, nervously looking over my notes. It's pointless. I'm not going to become any more confident in the material now. The professor calls me up to the board. Now the class will see that I don't know what I'm doing….

Everything past the first sentence is grammatically present tensed, even containing multiple occurrences of the word 'now', but the speaker is making a claim about the future.

Since English already contains Kaplanian monsters, there is no obstacle to introducing the 'as of' operator as I have explained it. Of course, it may not always be clear in English whether an

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[91] My thanks to Ljiljana Progovac for drawing my attention to this concept. I seem to recall Jennifer Goossen also referring to this phenomenon in discussion.

[92] Originally, I had 'then' omitted in this example, and I claimed that "I remember it like yesterday" was a Kaplanian monster. Lawrence Lombard pointed out that my original statement had a suppressed 'then', so I changed the example, and my discussion of it, accordingly.

occurrence of 'now' takes large or small scope relative to a previous tense operator. The clauses 'as of' and 'at' are helpful here. In the statement

As of any time t, as of now, I am typing this sentence,

the word 'now' refers to the time of typing (or, more precisely, the time which is present when this sentence was typed). Thus, 'now' effectively removes "I am typing this sentence" from the scope of "As of any time t," and consequently this says that I am typing this sentence at some time in the set associated with the present time. In the statement

As of any time t, at the present time, I am typing this sentence,

The description 'the present time' refers to each time t, when t is treated as present. Thus, 'the present time' takes small scope relative to 'As of any time t', and this says that I am typing this sentence eternally. So long as we take care to be clear whether we are talking about what is the case *as of* a time or *at* a time, we can avoid scope ambiguities.

6.2   The *As of*/*At* Distinction, Formally

Having explained the distinction between what is the case *as of* a time and what is the case *at* a time informally, I now give a formal account of the distinction. What I will do is give the semantics of a temporal logic incorporating this distinction. Such a temporal logic I will call a *presentist-eternalist temporal logic* (PETL), since this distinction is, I believe, crucial for stating presentism and eternalism as substantive theses.

I will suppose that we have a language containing some syntactical apparatus for distinctly symbolizing "As of some time, there is an F" and "At some time, there is an F." Perhaps the former could be represented using tense operators, as in

∃x Fx v *P* ∃x Fx v *F* ∃x Fx.

The latter could perhaps be represented using quantification over times and an 'at' operator, as in

∃t (at t (∃x(Fx))).

For our purposes, it is not necessary to actually give a syntax for PETL. We can simply suppose we have one.

Given that we have some syntactic means of symbolizing "As of some time, there is an F" and "At some time, there is an F," we need a *semantics* which captures this distinction. Such a semantics will consist of two parts. The first is a specification of the kind of model to which the distinction applies. The second is a set of criteria specifying the conditions under which such statements as "As of some time, there is an F" and "At some time, there is an F" are true in such a model. I will give both. First, though, as a preliminary, I briefly introduce models for a simple temporal logic which does not incorporate the *as of/at* distinction.

6.2.1   Models for Simple Temporal Logic

Before giving models for a temporal logic which incorporates the *as of/at* distinction, it will be useful to give models for a simple temporal logic (STL) which does not incorporate this distinction.

Intuitively, we want our model to consist of some set of objects standing for moments of time, which we may treat as either instants or periods of time depending on our interests. We arrange these times so that for any two moments of time, one is *before* the other, and we mark exactly one time as the present time. Intuitively, we can think of such a model as a *time-line* or *history* composed of different moments and containing a privileged present. We then assign objects, properties, and relations to these times.[93] Particular models vary with respect to what is assigned to each time. I turn now to the technical details.

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[93] A slightly more complicated temporal logic might contain branches in the future direction, with the consequence that there are times τ and τ` such that neither τ < τ` nor τ` < τ. For sake of simplicity we ignore this here.

A model for STL consists of a triple (T, τ^*, <), where T is a set of times, τ^* is a privileged member of T, and < is a transitive, irreflexive, asymmetric relation T, such that for any τ_i and τ_j, either $\tau_i < \tau_j$ or $\tau_j < \tau_i$. Intuitively, the privileged member $\tau^* \in$ T is the present time, and for times τ_1 and τ_2, $\tau_1 < \tau_2$ just in case τ_1 is earlier than τ_2. We populate such a model by assigning to each time $\tau \in$ T some subset of a universal domain $\wp(U)$ of objects, properties, and relations, resulting in a domain $\wp(\tau)$ for each $\tau \in$ T.

6.2.2 Models for Presentist-Eternalist Temporal Logic

With that background, let us turn to presentist-eternalist temporal logic (PETL). Intuitively, instead of just a set of times, a model of PETL will consist of a set of sets of times, which we will call *leaves*. Each leaf will contain at least one time, exactly one time on each leaf will be designated as the present time, and no time will be designated as the present time on more than one leaf. The leaves, and the times on each leaf, are arranged so that for any two leaves or times on leaf, one is before the other, where a leaf L_i is before a leaf L_j just in case the time privileged on L_i is before the time privileged on L_j. We then assign objects, properties, and relations to these times. Particular models vary with respect to what is assigned to each time and which times are assigned to which leaves. I now turn to the technical details.

A model for PETL consists of a triple ($\mathscr{L}$, $\mathscr{L}^*$, $<^\mathscr{L}$). $\mathscr{L}$ is a set of sets of times L_1, …., $L_n \in \mathscr{L}$. Each such set of times $L \in \mathscr{L}$ we will call a leaf. $\mathscr{L}^*$ is a function on $\mathscr{L}$ assigning as privileged exactly one $\tau \in$ L for each L $\in \mathscr{L}$, such that for any L_i, $L_j \in \mathscr{L}$, $\tau^* \in L_i \neq \tau^* \in L_j$. Finally, $<^\mathscr{L}$ is a transitive, asymmetric, irreflexive relation on each L $\in \mathscr{L}$ and each $\tau \in$ L.

We populate such a model by assigning to each $\tau \in$ L for each L $\in \mathscr{L}$ some subset of a universal domain $\wp(U)$ of objects, properties, and relations, resulting in a domain $\wp(t)$ for each

τ ∈ L and a domain ⌐(L) for each L ∈ ⌐, where ⌐(L): (⌐(τ₁) ∪ ... ∪ ⌐(τₙ)) for each τᵢ ∈ L. For each time τ, the associated domain ⌐(τ) consists in whatever exists in τ. For each leaf L, the associated domain ⌐(L) consists in whatever exists in L.[94]

Intuitively, each leaf represents the way things are when the time privileged on that leaf is present. In a model of PETL, each leaf may contain times other than the privileged time. Consequently, in a model of PETL, *the way things are* when a time τ is present may include more than just what exists, obtains, or occurs at τ. Whether or not each leaf contains just the time privileged on that leaf, or other times as well, is what determines whether a particular model of PETL is a presentist or eternalist model (or no-futurist model), as will be discussed shortly. What exists *as of* a given time τ consists in the domain ⌐(L) for the leaf *L* such that τ is privileged in *L*. That is, given a specified leaf L with time τ privileged, what exists *at* τ is just what exists at τ, but what exists *as of* τ is everything on that leaf with τ designated present.

6.3   Presentism and Eternalism (And No-Futurism)

Having explained the distinction between what is the case *as of* a time and what is the case *at* a time, we are now in a position to state presentism and eternalism (and, for completion, no-futurism) as substantive, opposed metaphysical theses. First I will offer a statement of each of these views, and then I will show how presentist, eternalist, and no-futurist models differ in PETL.

6.3.1   Stating Presentism and Eternalism (And No-Futurism)

Suppose that for each moment in time t, there is a corresponding set containing t as the unique privileged member. For each t, the corresponding set constitutes *what the world includes*

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[94] I intend the use of a universal domain ⌐(U) to be a matter of convenience. I suspect that we could dispense with it and have only domains associated with each leaf and each time, though I have not worked out the details.

when t is present. Presentists and eternalists disagree as to what the world includes when a given time t is present. With this background, presentism and eternalism can be stated as follows. Presentism is the thesis that

As of any time t, everything that exists as of t exists at t.[95]

Or, equivalently,

As of the present time, everything that exists as of the present time exists at the present time; as of any time there was, everything that exists as of that time exists at that time; and, as of any time there will be, everything exists as of that time exists at that time.

Eternalism is the thesis that

As of any time t, for anything that exists at any time t`, as of any time t\*, it exists at t`.

Or, equivalently,

As of any time t, for anything that exists at any time t`, as of the present time, it exists at t`.

In other words, presentist and eternalist disagree as to what times, objects, states of affairs, and events exist, obtain, and occur *as of* a given time being present.

In chapter 1, I introduced a third view which is treated as an alternative to presentism and eternalism, *no-futurism*. I will construe no-futurism as the thesis that

As of any time t, everything exists at t or at some t` before t, and as of every time t` there was, for anything that exists at t`, as of t it exists at t`.

Or, equivalently,

As of the present time, everything exists at the present time or at some time before the present time; as of every time t` there was, for anything that exists at t`, as of the present

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[95] Or outside of time. I adopt the convention that if anything exists outside of time, it exists *as of* every time t but *at* no time t, since an object outside of time has no temporal location.

time it exists at t`; and as of every time t`` there will be, as of any previous time t```, for

anything that exists at t```, as of t``, it exists at t```.

In other words, as of each time being present, there exist things at that time and at previous times,

but nothing exists at any future time.

Presentists and eternalists (and no-futurists) thus believe that it is part of the temporal

nature of the universe that for each time t, whenever t is present t is associated with a set of times,

but they disagree as to what times t is associated with in this way. According to the presentist, each

time t is associated only with itself, and consequently all the objects, events, and states of affairs

existing, occurring, or obtaining *at* t, as well as whatever exists outside of time, if anything.

According to the eternalist, each time t is associated with every time whatsoever. According to the

no-futurist, each time t is associated with itself along with every previous time.

Earlier, I illustrated the distinction between what is the case *as of* a time and what is the

case *at* a time through arbitrarily stipulating that January 10, 49 BCE and September 17, 1787

should be associated with 399 BCE, and that August 25, 1776 and 1931 should be associated with

June 18, 1851. If the distinction as it appears in the above statements of presentism and eternalism

(and no-futurism) were likewise matters of arbitrary stipulation, this would mean we had not

succeeded in expressing presentism and eternalism as substantive metaphysical theses.

Presentism and eternalism are not, however, consequences of arbitrarily stipulations.

Rather, presentism and eternalism are two theses about the nature of time. According to the thesis

about time endorsed by the presentist, time has such a nature that each moment, when it is present,

is in an important sense associated only with itself. That is, the presentist believes that it is part of

the nature of time that as of each time t, everything that exists as of t exists at t. According to the

thesis about time endorsed by the eternalist, time has such a nature that each moment, when it is

present, is associated with every other moment, in the very same sense in which the presentist thinks each time is only associated with itself. In the next chapter I will give an argument for the conclusion that presentism and eternalism, as construed using the distinction between what is the case *as of* a time and what is the case *at* a time, are indeed substantive metaphysical theses.

At this juncture, it is worth responding to a potential line of objection to the proposal so far. That objection goes like this. I have proposed that presentism is the thesis that

As of any time t, everything that exists as of t exists at t.

Included under 'any time' would be all times there ever were or will be. Hence, this statement appears to quantify over times other than the present. However, the presentist disavows quantification over times other than the present. Hence, this is not an acceptable formulation of presentism. Moreover, this shows that 'as of' locutions do not really help us to distinguish presentism from eternalism.

My response to this objection has two parts. The first part is to observe that, if non-serious presentism is a viable version of presentism, then it is possible to talk about times without implying that those times exist. Hence, the clause "As of a time t" does not entail the existence (as of the time of utterance) of t. Rather, it entails that *as of t, t exists*. The second part of my response is to observe that, if we assume serious presentism, though we cannot genuinely talk about non-present times, we can still *model* ways the world might have been or might be going to be. Hence we can represent the world as being such that a certain time is present, even if we cannot talk about actual times other than the time which, in fact, is present. With that, let us turn to the task of showing how to model presentism and eternalism in PETL.

6.3.2 Modeling Presentism and Eternalism in PETL

We are now in a position to explain how the difference between presentism and eternalism is reflected in our models. In a presentist model, each leaf contains exactly one time, the privileged time designated present. In an eternalist model, each leaf contains every time in the model (see Figure 1).

Modeling Presentism and Eternalism in PETL

Presentism   **Eternalism**
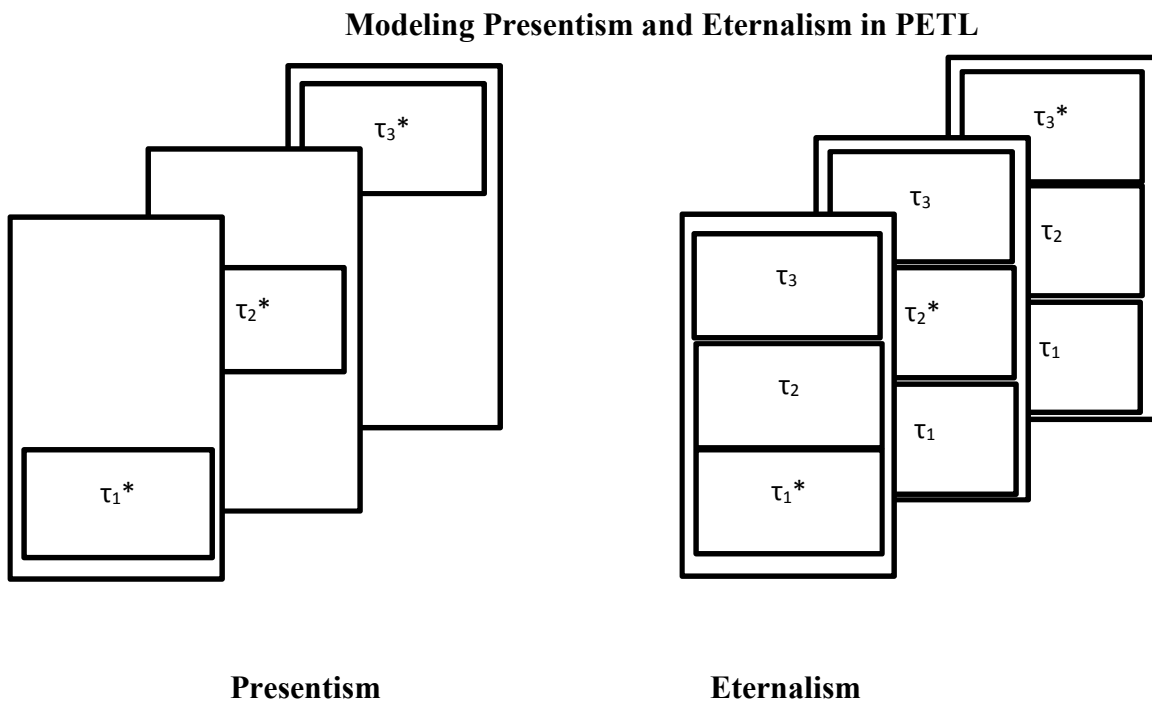
Figure 1

Each leaf represents the way the universe is when the privileged time in that leaf is present. As we can see, under the presentist model when a given time is present everything exits at that time. On the eternalist model, when a given time is present there exist things at other times as well.

In a *no-futurist* model, each leaf contains the time which is designated present on that leaf along with all previous times (see Figure 2).

Modeling No-Futurism in PETL
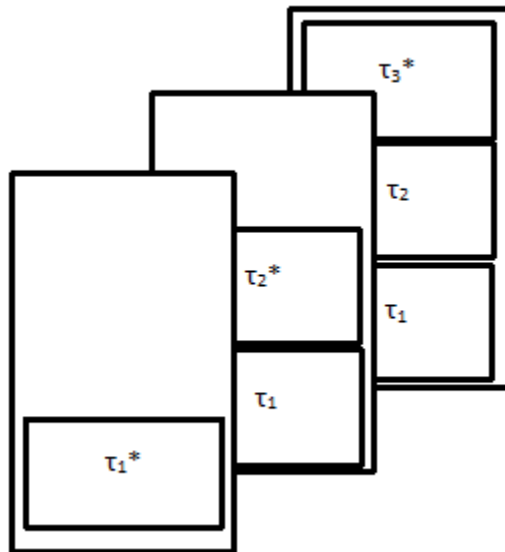
Figure 2

Thus, as of τ_1, everything exists at τ_1. As of τ_2, everything exists at either τ_1 or τ_2, as of τ_3, everything exists at either τ_1, τ_2, or τ_3, and so on.

Recall the definitions for presentism, eternalism, and no-futurism offered previously. Presentism is the thesis that

As of the present time, everything[96] exists at the present time; as of any time there was, everything exists at that time; and, as of any time there will be, everything exists at that time.

By contrast, eternalism is the thesis that

As of any time t, for anything that exists at any time t`, as of the present time, it exists at t`.

Finally, no-futurism is the thesis that

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[96] Excluding things existing outside of time, which we count as existing *as of* every time.

As of the present time, everything exists at the present time or at some time before the present time; as of every time t` there was, for anything that exists at t`, as of the present time it exists at t`; and as of every time t`` there will be, as of any previous time t```, for anything that exists at t```, as of t``, it exists at t```.

We can see these theses represented in these models.

It is also easy to verify, using these models, that presentists, eternalists, and no-futurists will genuinely disagree about what exists as of a given time. Let us suppose that τ_2 is the present time, τ_1 is some moment in time 80 million years ago, and τ_3 is some moment in time 100 years from now. Furthermore, suppose that some of the things in τ_1 are dinosaurs, and in τ_3 there is a colony on Mars. Presentists, eternalists, and no-futurists will disagree as to what exists as of τ_2 (see Figure 3).

Modeling Existential Commitment for Presentism, Eternalism, and No-Futurism

Presentism (as of τ_2)   **Eternalism (as of τ_2)**   **No-Futurism (as of $\tau2$)**
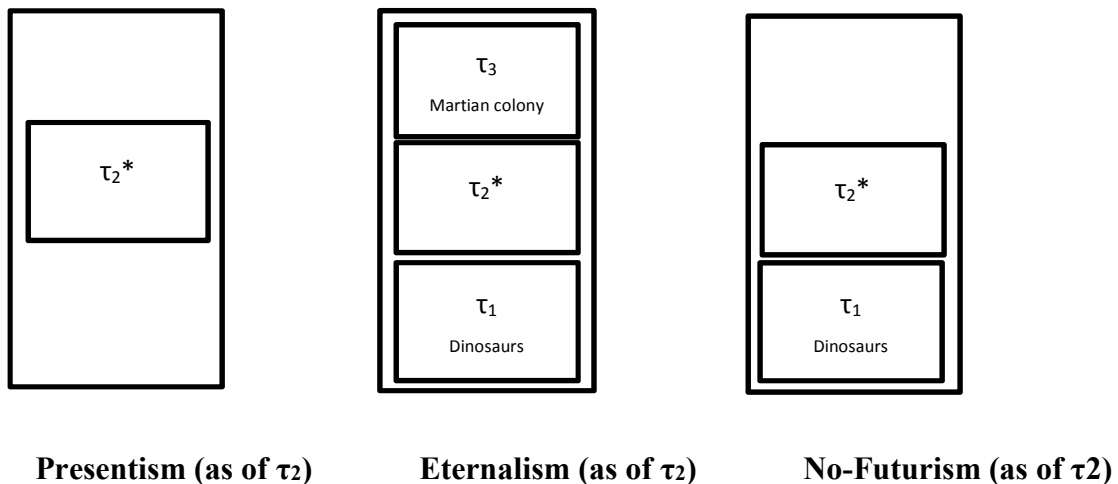
Figure 3

The way in which presentists, eternalists, and no-futurists disagree about what exists as of τ_2 is clearly expressed in our models. In this case, on the eternalist model, as of τ_2, both dinosaurs and a Martian colony exist. On the presentist model, by contrast, as of τ_2, neither dinosaurs nor a

Martian colony exist. In contrast to both of these, on the no-futurist model, as τ_2, dinosaurs exist, but Martian colonies do not.

6.3.3 A Comment on the Chosen Approach

I have chosen to let the difference between presentism, eternalism, and no-futurism in our models be a function of which times are assigned to each leaf. On presentism, only a single time is assigned to each leaf, the time which is designated as the present time. On eternalism, every time is assigned to every leaf, with individual leaves differing only with respect to which time is designated as the present time. On no-futurism, for each leaf, along with the time privileged on the leaf, only times *past* relative to the privileged time are assigned to that leaf.

We might have tried a slightly different approach.[97] On this alternative approach, we let all times be assigned to every leaf on any model. Models diverge as to what objects are assigned to the domain of each time in each leaf. On presentism, each time is assigned a non-empty domain on the leaf on which it is privileged, and an empty domain on all other leaves. On eternalism, each time is assigned a non-empty domain on the leaf on which it is privileged and all subsequent leaves, and an empty domain on all leaves prior to the leaf on which it is privileged.

Let us call the approach I have opted to use the *selected approach* and the other the *alternative approach*. On both approaches, the presentist believes that *as of the present time*, neither dinosaurs nor human colonies on Mars exist. The central difference between the selected approach and the alternative approach concerns the existence of times other than the present. On the alternative approach, as of the present time there exist other times. On the selected approach,

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[97] This approach was suggested by Eric Hiddleston.

by contrast, as of the present time only the present time exists. I think the selected approach better captures what the presentist thinks, which is why I have opted for it.

One benefit of the alternative approach is that on this approach we may refer to non-present times directly, so that '399 BCE' can function as a proper name in

At 399 BCE, Socrates is drinking hemlock.

Since as of the present time the domain assigned to 399 BCE is empty, this is false. On the selected approach, if '399 BCE' functions as a directly referring expression then it fails to refer, and thus this statement is arguably without truth-value. To avoid this problem, I will treat names for times as descriptions on the selected approach. Thus, the presentist will construe the previously intended statement as

There is a time, 399 BCE, such that at that time Socrates is drinking hemlock.

If as of a time this statement is tokened, there is no time, 399 BCE, then that token will be false, rather than without truth-value.

6.4   Truth in a Model and Serious and Non-Serious Presentism in PETL

I now turn to give the conditions under which statements containing 'as of' and 'at' are true in a model of PETL. Specifically, I will consider the statement forms "As of t_j, Fa" and "As of t_j, $\exists x$ Fx," and, given that some leaf has been specified, either implicitly or explicitly, the statement forms "Fa at t_j," and "at t_j, $\exists x$ Fx." In the process of doing this, I will give two interpretations of predicates, which I call the conservative interpretation and the liberal interpreation. After explaining truth-conditions for statements in a model of PETL, I will show how the distinction between serious and non-serious versions of presentism follows from these two interpretations of predicates.

6.4.1 Truth in a Model of PETL

The basic idea behind giving the conditions in which a statement is true in a model of PETL is that a statement of the form "As of t_j, Fa" is used to express the proposition that a is an F on the leaf with the time τ_j privileged, and, given some leaf being specified, a statement of the form "Fa at t_j" is used to express the proposition that at time τ_j on the specified leaf, a is an F. In other words, the clause 'As of' is used to specify a leaf, whereas 'at' is used to specify a time on a specified leaf.

I give interpretations of constants and predicates in PETL, and then give conditions for truth in a model of PETL. I begin with the interpretation of constants. We let an interpretation of PETL assign each constant c on a leaf to some member of the universal domain:

$I(c, L_i) \in \wp(U)$.

For predicates, we have two interpretations, which I call the conservative interpretation and the liberal interpretation. On the conservative interpretation, we assign each predicate F on a leaf to a function from a time on a leaf to the power set[98] of objects in the domain assigned to that leaf:

$I(F, L_i): (\tau_j, L_j) \rightarrow P(\wp(L_j))$.

On the liberal interpretation, we assign each predicate F on a leaf to a function from a time on a leaf to the power set of objects in the universal domain:

$I(F, L_i): (\tau_j, L_j) \rightarrow P(\wp(U))$.

I will discuss the importance of these two interpretations of predicates shortly.

Let us, then, turn to truth-conditions in a model of PETL. These conditions hold for serious presentism, non-serious presentism, and eternalism. A statement of the form "As of t_j, Fa" is true

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[98] The power set of a set S is the set containing all the combinations of all the members of S. So, if S=(A, B, C), the power set of S, P(S) = (A, B, C, AB, AC, BC, ABC).

on a leaf L_i in a model of PETL just in case the model makes true "Fa" on a leaf L_j such that L_j is

the leaf with τ_j privileged:

$M \vDash_{L_i}$ "As of t_j, Fa" if and only if $M \vDash_{L_j}$ "Fa", where L_j = the leaf with τ_j privileged.

In other words, a statement of the form "As of t_j, Fa" is true just in case "Fa" is true on the leaf

containing τ_j as its privileged member. For instance, the statement,

As of 80 million years ago, Ralph is a dinosaur,

is true just in case as a given time τ, which is privileged on a leaf representing the way things were

as of 80 million years ago, "Ralph is a dinosaur" is true.

A statement of the form "As of t_j $\exists x Fx$" is true on a leaf L_i in a model of PETL just in case

under some interpretation the model makes true "Fa" on a leaf L_j, for some α on L_j, where L_j is the

leaf with τ_j privileged:

$M \vDash_{L_i}$ "As of t_j $\exists x$ Fx" if and only if $M \vDash_I L_j$ "Fa" for some $\alpha \in \oslash(L_j)$, where L_j = the leaf

with τ_j privileged.

For instance, the statement,

As of 70 million years ago, there are dinosaurs,

is true just in case on the leaf containing the time 70 million years ago, "a is a dinosaur" is true for

some α on that leaf.

A statement of the form "Fa at t_j" is true on a leaf L_i in a model of PETL just in case the

interpretation of a in L_i is a member of the interpretation of F on τ_j on L_i:

$M \vDash_{L_i}$ "Fa at t_j" if and only if $I(a, L_i) \in I(F(\tau_j, L_i))$.

In other words, "Fa at t_j" comes out true just in case in τ_j α satisfies the predicate F. For instance,

a token of

At 70 million years ago, Ralph is a dinosaur,

is true just in case there is a time τ in the leaf containing the token, such that τ is 70 million years prior to the time containing the token, and on τ Ralph satisfies the predicate *is a dinosaur*.

A statement of the form "$\exists x F x$ at t_j" is true on a leaf L_i in a model of PETL just in case under some interpretation the model makes true "Fa at t_j" in L_i:

$M \vDash_{L_i}$ "$\exists x F x$ at t_j" if and only if $M \vDash_I$ "Fa at t_j" for some $\alpha \in \mathcal{D}(L_i)$.

For instance, a token of

There is a dinosaur at 70 million years ago,

is true just in case there is a time τ on the leaf contain the token, such that τ is 70 million years prior to the time containing the token, and "There is some dinosaur" is true on τ.

For the remainder, we let 'P' be any statement. A statement of the form "As of any time there was, P" is true on a leaf L_i in a model of PETL just in case for any leaf L_j such that L_j is before L_i, "P" is true on L_j:

$M \vDash_{L_i}$ "As of any time there was, P" if and only if for all L_j such that $L_j <^\lessdot L_i$ $M \vDash_{L_j}$ "P".

For instance, a token of

As of any time there was, there is some dinosaur,

is true just in case for every leaf before the leaf containing the token, "There is some dinosaur" is true on that leaf.

A statement of the form "As of some time there was, P" is true on a leaf L_i in a model of PETL just in case for some leaf L_j such that L_j is before L_i, "P" is true on L_j:

$M \vDash_{L_i}$ "As of some time there was, P" if and only if $M \vDash_{L_j}$ "P" for some L_j such that L_j

$<^\lessdot L_i$.

For instance, a token of

As of some time there was, there is a dinosaur,

is true just in case on some leaf before the leaf containing the token, "There is some dinosaur" is true on that leaf.

A statement of the form "As of any time there will be, P" is true on a leaf L_i in a model of PETL just in case for any leaf L_j such that L_j is after L_i, "P" is true on L_j:

$M \vDash L_i$ "As of any time there will be, P" if and only if for any L_j such that $L_i <^{\leqslant} L_j$ $M \vDash L_j$ "P".

For instance, a token of

As of any time there will be, there is some dinosaur,

is true just in case for every leaf after the leaf containing the token, "There is some dinosaur" is true on that leaf.

A statement of the form "As of some time there will be, P" is true on a leaf L_i in a model of PETL Justin case for some leaf L_j such that L_j is after L_i, "P" is true on L_j:

$M \vDash L_i$ "As of some time there will be, P" if and only if for some L_j such that $L_i <^{\leqslant} L_j$ $M \vDash L_j$ "P".

For instance, a token of

As of some time there will be, there is some dinosaur,

is true just in case for some leaf after the leaf containing the token, "There is some dinosaur" is true on that leaf.

A statement of the form "As of the present time, P" is true on a leaf L_i in a model of PETL just in case "P" is true on a leaf L_j, such that the whole statement containing "As of the present time, P" is on L_j:

$M \vDash L_i$ "As of the present time, P" if and only if $M \vDash L_j$ "P", such that the whole statement containing "As of the present time, P" is on L_j.

This warrants some clarification.

If "As of the present time, P" is on a leaf L_i, and is not a component of a larger statement containing it, then it is true in a model of PETL just in case "P" is true on L_i. Instead, "As of the present time, P" may appear as a part of a larger sentence, such as "As of some time there was, Q, and as of the present time, P," on L_j. This will be true on L_j in a model of PETL just in case, first, on some L_i such that L_i is before L_j, "Q" is true, and second, on L_j "P" is true. That is:

$M \vDash_{L_j}$ "As of some time there was, Q, and as of the present time, P" if and only if, (i) $M \vDash_{L_i}$ "Q" where $L_i <^{\leqslant} L_j$, and (ii) $M \vDash_{L_j}$ "P".

For instance, a token of

As of some time there was there are people, and as of the present time there are dinosaurs,

is true just in case for some leaf before the leaf containing the token, "There are people" is true on that leaf, and on the leaf containing the token "There are dinosaurs" is true.

By contrast, a token of

As of some time there was, there are people, and as of some time there will be, there are dinosaurs,

is true just in case for some leaf L_j before the leaf containing the token, "There are people" is true on L_j, and on some leaf L_k after L_j, "There are dinosaurs" is true. That is, the clause "As of some time there will be, there are dinosaurs" is within the scope of "As of some time there was," and hence indicates that there are dinosaurs on a leaf after the time at which "There are people" is true. In the previous intended statement, "As of the present time there are dinosaurs" indicates what is the case on the leaf on which the sentence is tokened, and does not indicate what is the case on the leaf on which "There are people" is true. Clauses of the form "As of the present time" effectively bring us back to the leaf on which we started.

A statement of the form "As of all times, P" is true on a leaf L_i in a model of PETL just in case the model makes true "P" on every leaf in the model:

$M \vDash L_i$ "As of all times, P" if and only if $\forall L_j$, $M \vDash L_j$ "P".

For instance, a token of

"As of all times, there is some dinosaur"

is true just in case for every leaf, there is some time τ on that leaf such that "There is some dinosaur" is true on τ.

In other words, a statement of the form "As of all times, P," is true on a leaf L_i in a model of PETL just in case "As of all times there were, P," "As of the present time, P," and "As of all times there will be, P" are all true on L_i in the model.

6.4.2 Serious and Non-Serious Presentism

Previously, I gave two interpretations of predicates in PETL, which I called the conservative interpretation and the liberal interpretation. I now turn to explain the importance of this distinction. Under the conservative interpretation of predicates, a predicate on a leaf is a function from a time on a leaf to the power set of objects in the domain assigned to that leaf:

$I(F, L_i)$: $(\tau_j, L_j) \rightarrow P(\mathcal{D}(L_j))$.

Suppose a statement of the form "As of the present time, a is an F" is true in a model of PETL. In that case, the model makes true "a is an F" in a leaf L_p with the present time privileged. Since the interpretation assigns 'F' to the power set in the domain $\mathcal{D}(L_p)$ of that leaf, there must be some object (or group of objects) $\alpha \in \mathcal{D}(L_p)$ in the domain of that leaf such that "a is an F" is true of α. Thus, "$\exists x F x$" is true as of the present time, and so "As of the present time, there exists something which is an F" is true.

Hence, if we adopt presentism and the conservative interpretation of predicates, we are committed to serious presentism, according to which only things existing at the present time (or outside of time) can exhibit properties or stand in relations. Using the *as of/at* distinction we can give a better formulation of serious presentism: As of any time t, properties and relations can only be exhibited by what exists at t (or outside of time).

Serious presentism has an important consequence for *truth*. By 'truth' here I do not mean *truth in a model*, but rather the conditions under which an arbitrary statement would be *true*, if serious presentism were to be the case. Suppose that for a statement S to be true because of M, S must stand in some relation to M, the *is made true by* or *is true because of* relation. Given the foregoing, under serious presentism M must exist as of the time S is tokened. Hence, under serious presentism, a statement S can be true as of a time t only in virtue of what exists at t or outside of time. Consequently, serious presentism seems to involve a sort of semantic paradox: in a world in which serious presentism holds there were and will be moments other than the present, but it is not clear how denizens of such worlds can talk about them. Some possible responses to this problem were surveyed in chapter 5.[99]

Under the liberal interpretation of predicates, a predicate on a leaf is a function from a time on a leaf to the power set of objects in the universal domain:

$$I(F, L_i): (\tau_j, L_j) \rightarrow P(\wp(U)).$$

Suppose a statement of the form "As of the present time, a is an F" is true in a model of PETL. In that case, the model makes true "a is an F" in the leaf L_p with the present time privileged. Since the interpretation assigns 'F' to the power set of objects in the universal domain, the object α such

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that "a is an F" is true of α may exist in some leaf other than L_p. If this is the case, it will not be the case that the model makes true "a is an F" in L_p for some α ∈ $\mathcal{D}(L_p)$. But then "∃xFx" will come out false in L_p, and thus, "As of the present time, there exists something which is an F" can be false even though "As of the present time, a is an F" is true.

Hence, if we adopt presentism and the liberal interpretation of predicates, we may adopt non-serious presentism, according to which things which merely did or will exist at past or future times can exhibit (some) properties and relations, despite the fact that they do not exist. Using the *as of*/*at* distinction, we can give a better formulation of serious presentism: As of any time t, for some things, as of some other times t` when they do not exist, they may exhibit (some) properties and stand in (some) relations. In other words, as of a time t, at least some properties and relations can be exhibited by things which as of other times exist, but as of t do not. A straightforward consequence of this is that under non-serious presentism, a statement uttered as of the present time can be *true in fact* (to contrast with being *true in a model*) in virtue of what is the case as of other times.

Consequently, serious and non-serious presentist agree on what it takes for an arbitrary statement to be true in a model, but they disagree on what it takes for some statements to be true in fact. Since we can capture the distinction between what is the case *as of* a time an *at* a time using only truth in a model, we can ignore the distinction between serious and non-serious presentism when formulating presentism and eternalism as substantive theses.

On eternalist models of PETL, the domain of an arbitrary leaf $\mathcal{D}(L)$ is the same as the universal domain $\mathcal{D}(L)$. Hence, on eternalist models, the conservative and liberal interpretations of predicates are equivalent.

6.5   Concluding Remarks

In this chapter I introduced and explained a distinction between two ways of saying that something is the case with respect to a time: that some object, state of affairs, or event exists, obtains, or occurs *as of* a time, and that some object, state of affairs, or event exists, obtains, or occurs *at* a time. Using this distinction, I offered formulations of presentism and eternalism (and no-futurism). In the next chapter I will argue for the conclusion that presentism and eternalism so formulated are indeed substantive, opposed metaphysical theses.

CHAPTER 7. THE CASE FOR SUBSTANCE AND RESPONDING TO THE SKEPTIC

In chapter 6, I introduced a distinction between what is the case *as of* a time and what is the case *at* a time, and used this distinction to give formulations of presentism and eternalism. In this chapter I will argue for the conclusion that presentism and eternalism so formulated are indeed substantive, opposed philosophical theses. Then I will give my response to the argument from chapter 1 for the conclusion that presentism and eternalism are not substantive philosophical theses.

7.1   A Spatial Analogy

To help us conceive of presentism and eternalism as substantive metaphysical theses, I will describe an analogous pair of theses about the nature of space. According to what I will call *hereism, everything that exists, exists here.* Shortly I will describe a version of hereism which is analogous to presentism, as I am proposing that presentism should be understood. According to what I will call *anywhereism, some things exist here, some things exist at distant locations, and everything which exists locally or exists at a distant location, exists.*[100] Anywhereism I offer as a spatial analogue of eternalism. In order to explicate the difference between anywhereism and eternalism, and to create a lucid picture of the version of hereism which is analogous to presentism, I will tell a story about an interaction between a group of hereists and a group of anywhereists.

On a certain island, there is a group of people who have no knowledge of seafaring. The waters around the island are treacherous, so they never swim far. These islanders believe that their

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[100] I originally wanted to call these positions 'hereism' and 'everywhereism', but Lawrence Lombard pointed out that 'everywhereism' suggests the view that everything exists everywhere, that is, that everything is extended throughout all of space. Hence 'everywhereism' became 'anywhereism'. I later discovered that the terms 'here-ism' and 'anywhere-ism' appear in Lombard (2003) (starting at page 177) standing for basically the same positions as they stand for here. Lombard discusses these views with relation to the problem of temporary intrinsics.

island is the center of the world, and that world ends in every direction at the horizon. In the morning, a sun is created on one horizon, travels across the sky during the day, and in the evening, passes out of existence at the other horizon. The next day a new sun appears on the first horizon, travels across the sky, and in the evening, passes out of existence at the other horizon like so many before. Perhaps island philosophers have debates over whether a different sun appears every day or if there is a single sun that is destroyed every night and the next day reincarnated.

One day a ship appears on the horizon, traverses the treacherous waters, and finally makes anchor. The sailors come ashore and are greeted by the locals. The captain of the ship tells them that they are from a faraway land over the horizon. The islanders reject this story as pure fantasy: the ship and the sailors popped into existence on the horizon, perhaps with false memories of lives in a land that does not exist.

I submit that the sailors are anywhereists, and that the islanders accept a version of hereism, which I will call *static hereism*. The islanders genuinely believe that everything exists *here*, within the visual horizon for people on the island. The disagreement between the islanders and the sailors is real: the sailors believe that there exist places and things beyond what can be seen from the island, whereas the islanders do not. Static hereism is a spatial analogue of the thesis that *everything that ever did or ever will exist, exists at the present time*: according to the one view, there is only one time ever, and according to the other there is only one location anywhere. I want to make sense of presentism as being consistent with the thesis that there did and will exist things which do not exist now. Hence, static hereism is not a good analogy for presentism. However, we will soon come to a version of hereism which is analogous to presentism. Let us continue the story.

Suppose that the captain of the ship invites any islander curious and courageous enough to go with them on the ship and see for him or herself that there are people, places, and things beyond

the horizon. One of the islanders volunteers, and is taken on board. They set sail, and as they go along the islander watches the island behind them get progressively smaller and further away, until finally it vanishes at the horizon. The islander turns to see a new landmass appear in the distance at the opposite horizon. This landmass gets progressively closer and closer until they are near enough to dock and come ashore. The captain proudly pronounces that he has proved the existence of things beyond the sight of the island, and thus not everything exists *here*, wherever that may be.

We may expect our islander to concede that the captain is correct, and begrudgingly accept anywhereism. This is, surely, what the captain expects. Yet suppose the islander responds in this way:

I was wrong that everything exists within sight of the island. But you are wrong to think that things exist elsewhere than here. I see now that everything there is exists within sight of this dock.

Stunned, the captain may ask whether the island from which the islander came exists, to which the islander will answer: no.

Bewildered, the captain invites the islander back aboard the ship. They leave the dock and sail away. As they travel, the islander sees the dock and mass of land grow gradually smaller and further away, until at last it disappears on the horizon. Looking forward, the island appears on the other horizon, and grows gradually closer and larger. Eventually they are close enough to drop anchor and come ashore. The captain insists that he has now proved that the island exists, that not everything exists within sight of the dock, and generally that there exist things elsewhere than here.

Our islander responds:

You are right that the island exists, and you are right again that not everything exists within sight of the dock. But you are wrong that there exist things elsewhere than here. Everything that exists is within sight of this island.

Dumbfounded, the captain asks: what about the dock? To which the islander responds, with utmost conviction: there is no dock. It does not exist. Apoplectic, the captain gives up the cause.

This islander believes what I will call *dynamic hereism*. According to dynamic hereism, everything exists locally, but what is local *can change*. As you change location what *exists* changes as well. You park your car and walk away. Go far enough and it vanishes, along with everything around it. The grocery store comes into existence as you travel a certain direction, a certain distance, and so too the bar, the park, and so on. Even the ground beneath your feet only exists because you walked in this direction.

My proposal is that presentism is to be understood as a temporal analogue of dynamic hereism, and eternalism is to be understood as a temporal analogue of anywhereism. According to presentism, what time is present changes, and this change consists in the previous time ceasing to exist and a new time coming into existence. According to eternalism, different times are like different locations. Objects that exist at other times do not exist at the present time just like objects at distant locations do not exist here. Nonetheless, objects at other times exist at those times, when those times exist (are present), as objects at distant locations exist at those locations, when those locations exist (are *here*).

I submit that we can understand the disagreement between an anywherest and a dynamic hereist, and therefore that we can understand the disagreement between a presentist and an eternalist.

7.2   The Skeptic Responds

In the next section, I will turn to the task of defending the claims dynamic hereism and anywhereism are indeed substantive theses, and that presentism and eternalism are analogous to these two views about space. Before that, I want show how the skeptic might argue for the conclusion that dynamic hereism and anywhereism are not substantive theses. If sound, such arguments would undermine my attempt to use these theses to establish that presentism and eternalism are substantive.

The starting point of the arguments for the conclusions that presentism and eternalism are not substantive theses was that in English verbs are tensed, and where the tense on a verb is not explicit it is ambiguous. Lombard (2003) points out, however, that while English verbs are tensed, they are not similarly *placed*.[101] Thus, dynamic hereism and anywhereism are not ambiguous in ordinary English as are presentism and eternalism. If English verbs were placed, however, the skeptic may argue, we could see straightforwardly that dynamic hereism and anywhereism are not substantive theses.

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[101] Why are English verbs tensed but not placed? Suppose Sam has a red vase by the window in his kitchen. Sam takes the vase to his garage and paints it blue, then returns it to its former place by the window. So, at time t1 the vase is red and located in the kitchen, at t2 the vase is blue and located in the garage, and at t3 the vase is blue and located back in the kitchen. Now, if we just say that the vase is red and blue, we have an apparent contradiction. This apparent contradiction is not resolved by indicating where the vase is located when it has each color, since the vase is both red and blue in the kitchen. However, it is resolved by indicating when the vase has each color: it is red at t1 and blue at both t2 and t3. Since indicating the time is sufficient to resolve the contradiction the problem is avoided by tensing the verb, and so *placing* the verb as well would be extraneous. It is a feature of ordinary objects, like Sam's vase, that they can have the same spatial locations at different times, but they cannot at any particular time exist wholly at separate spatial locations. So, what holds for talk about Sam's vase holds for talk about ordinary objects. Presumably English developed by speakers communicating about ordinary objects. It is thus no surprise that verbs are tensed but not placed.

If, however, we do want to talk about things which can be wholly located at different places simultaneously, we will have to add spatial information to our verbs. For at a certain time Sam may hate the red of his vase (this is why he paints it blue), but love the red of Jane's sweater. So, redness is both loved and hated by Sam, and we have an apparent contradiction. This apparent contradiction can be resolved by specifying that Sam hates the red as it is instantiated in his vase but loves it as it is instantiated in Jane's sweater, which is effectively to introduce spatial information.

Let us suppose that English verbs were placed, and consider an argument for the conclusion that dynamic hereism is not a substantive thesis. What would it be like if English verbs were placed? Instead of saying "John is eating lunch," we might say "John here-is eating lunch," if John is close by and eating lunch. If John is far away and eating lunch we might say, "John there-is eating lunch," or "John elsewhere-is eating lunch." Finally, we might say "John somewhere-is eating lunch" if we did not wish to specify *where* John is eating lunch. Instead of saying "There is a lion at the zoo," we might say "Here-is a lion at the zoo," if we are at the zoo, or "There-is a lion at the zoo," if we were somewhere else.

Here is an argument for the conclusion that hereism is not a substantive thesis:

(1H)   Hereism, the thesis that *everything that exists, exists here*, is ambiguous. It could mean *everything that here-exists, exists here*. Alternatively, it could mean *everything that somewhere-exists, exists here*.

(2H)   The thesis that everything that here-exists, exists here is trivially true.

(3H)   The thesis that everything that somewhere-exists, exists here is obviously false.

(4H)   For a thesis to be philosophically substantive it cannot be either trivially true or obviously false.

(5P)   Therefore, dynamic hereism is not a philosophically substantive thesis.

Now, the static hereist could respond to this argument by rejecting (3H), for the static hereist does think that everything that somewhere-exists, exists here. The dynamic hereist, however, does not think this, since unlike the static hereist, the dynamic hereist believes that although nothing elsewhere-exists, he or she could travel elsewhere and discover things which do not exist *here*.

The skeptic thus argues that the dynamic hereist is conflating "exists" with "here-exists," and forgetting "somewhere-exists." It is true that things existing at distant locations do not *here-*

exist, and so if we identify "exists" with "here-exists" it follows that things at distant locations do not exist, and hence that everything exists locally. Later, I will give a response to the argument from chapter 1 for the conclusion that presentism is not a substantive metaphysical thesis. My response to that line of argument can, with the relevant changes, be turned into a response to the argument considered in this section for the conclusion that dynamic hereism is not really a substantive metaphysical thesis.

7.3   Responding to the Skeptic

In the sections to follow I will develop the case for the conclusion that presentism and eternalism are substantive, opposed metaphysical theses, as well as give my response to the skeptic who believes that they are not.

My basic argument for the conclusion that presentism and eternalism and substantive, opposed metaphysical theses goes as follows:

(1) Dynamic Hereism and Anywhereism are substantive, opposed metaphysical theses.

(2) Presentism is importantly analogous to dynamic hereism and eternalism is importantly analogous to anywhereism.

(3) Therefore, presentism and eternalism are substantive, opposed metaphysical theses.

In what follows I will defend premises (1) and (2), and then offer a refutation of the argument from chapter 1 for the conclusion that presentism is not a perspicuous thesis.

7.3.1   Anywhereism and Dynamic Hereism are Substantive Theses

Here I will give two arguments for the conclusion that anywhereism and dynamic hereism are substantive metaphysical theses.

The first argument for this conclusion is that there is a substantive disagreement between the anywhereist and the static hereist, and therefore there is also a substantive disagreement

between the anywhereist and the dynamic hereist. There is clearly a substantive disagreement between the static hereist and the anywhereist. For we can suppose that our islanders believe that nothing exists accept what is within sight of the island, and that by 'exists' they mean the same thing as the captain of the ship. The islanders are not using 'exists' differently from the way the captain uses that word, they simply think there is nothing out there past the horizon. This means the disagreement between the anywhereist and the dynamic hereist must be substantive as well, since the static and the dynamic hereist both use the word 'exists' in the same way. The dynamic hereist believes that everything exists here, and that such things as did exist at other locations have been snuffed out.

Of course, static hereism is obviously false, and for this reason we may think that it is not a substantive thesis. Even if static hereism is not a substantive thesis, the hypothetical static hereist does genuinely disagree with the anywhereist regarding what exists, in the very same sense of 'exists'. Since the dynamic hereist, given that she has a particular location, believes the very same things exist as would the static hereist at the same location, the dynamic hereist and the anywhereist must genuinely disagree with the anywhereist regarding what exists, in the very same sense of 'exists'. While I think that we have good reason to reject dynamic hereism as false, it is not quite so absurd as static hereism.

Someone might object that the dynamic hereist will want to talk about the what there is at locations other than here, and that such talk brings with it commitment to the existence of objects existing elsewhere than here.

My response to this objection parallels my response to the analogous objection raised against using 'as of' locutions to distinguish presentism from eternalism. We can distinguish between what might be called serious dynamic hereism and non-serious dynamic hereism.

According to serious dynamic hereism, only things which exist here can exhibit properties or stand in relations here. According to non-serious dymamic hereism, at least some properties or relations can be exhibited here by things which do not exist here. If non-serious dynamic hereism is the case, then we can talk about other locations without implying that they exist. If we assume serious dynamic hereism, although we cannot talk about other locations, we can represent locations other than this one.

The second argument for the conclusion that anywhereism and dynamic hereism are substantively opposed metaphysical theses is based on the fact that we can imagine a version of dynamic hereism which is empirically distinguishable from anywhereism. Imagine that in fifty feet in any direction, the world simply stopped. A useful image may be the view from atop a building over an empty skyline on a starless night: there is nothing to see past the edge of the rooftop. Instead of the edge of the rooftop, imagine the ground coming to an end. Instead of there being simply nothing to see past that point, there is nothing at all. Now imagine stepping forward, and as you walk new objects appear in front of you. Looking back, you see that old objects have disappeared behind you. What exists depends on where you are, and wherever you are, you are at the center of a world with a fifty-foot radius. Whether it is genuinely possible for such a world to exist, I do not know. It is, however, in some sense *conceivable* that the world be this way.

Now push the edge of the world back to sixty feet, to seventy feet, and so on, finally pushing it all the way to the horizon in all directions. We now have a world as described by dynamic hereism.

Either the truth or falsity of what might be called fifty-foot-radius dynamic hereism is a matter of linguistic convention, the placing of the edge of the world at the horizon turns a metaphysical thesis into a linguistic convention, or the truth of dynamic hereism is not a matter of

linguistic convention. Clearly the truth or falsity of fifty-foot-radius dynamic hereism is not a matter of linguistic convention. We can clearly observe that it is in fact false. Given that we can conceive of the world having a movable end in space, it is simply incredulous that this end in space could not be located at the visual horizon. This is, however, what the skeptic must say if he insists that by 'exists' the dynamic hereist means "exists here" (or "here-exists"), and thus that there is no genuine metaphysical disagreement between the dynamic hereist and the anywhereist. This is surely incorrect.[102]

We may thus conclude that anywhereism and dynamic hereism are substantive metaphysical theses, and that the disagreement between anywhereists and dynamic hereists is not merely a matter of linguistic convention.

7.3.2   The Analogy Holds

I now turn to the task of establishing that anywhereism and eternalism, and dynamic hereism and presentism, are indeed importantly analogous.

According to dynamic hereism, wherever you are located, everything exists *there*. Were you to move, however, the objects *here* would cease to exist, and the objects at your new location would come into existence. Your moving has as a consequence the pushing of old objects and locations out of existence, and the bringing of new objects and locations into existence. According to presentism, whatever time is present, everything exists *then*. As the present time changes, old objects cease to exist and new objects come into existence. The passage of time consists in the

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[102] I note also that if I am right that dynamic hereism is a substantive thesis, then the view according to which a statement such as "There is an x over there" has the same meaning as "If you/I/we were to go over there, you/I/we would have such and such experiences" is false. After all, the dynamic hereist agrees that *if* she was go over there, she would have such and such experiences, but she disagrees that *as of here*, there is anything *over there*.

pushing of old objects and moments out of existence and the bringing of new objects and moments into existence. Thus, dynamic hereism is analogous to presentism.

Admittedly, dynamic hereism and presentism are not analogous in all respects. For instance, one can travel back to locations where one had been before, but it is at least extremely difficult to travel to *times* there used to be. Although presentism and dynamic hereism are not analogous in all respects, they are appropriately analogous in the respect that matters. According to dynamic hereism, what exists changes as what location is here changes, and, analogously, according to presentism, what exists changes as what time is present changes.

According to anywhereism, whatever would exist locally given any place which could possibly be considered *here,* that thing exists *at* that location *from* where you are now. In other words, your location has no impact on what other locations exist, and what exists at those other locations. Local objects do not cease to exist as we move away from them, but become increasingly more distant. Objects at places we travel to are not thereby brought into existence, but become increasingly more near. According to eternalism, whatever exists as of any time t, as of any other time, exists at t. What time is present has no impact on what other times exist, and what exists at those other times. Speaking ordinary language, the eternalist may say that past objects no longer exist. What she really means is that they are not temporally located at this time, and instead that they are temporally distant. The eternalist may likewise say that in the future new objects will come into existence. What she really means is that they will at that time be temporally near. Thus, anywhereism is analogous to eternalism.

The point can be made in a different way. Suppose that, instead of letting *as of* be used to treat a time t as the present time, we let it be used to treat a location L as *local*, and let each location L be associated with a set of locations which includes at least L as a member. Thus, "As of Detroit,

Michigan, …" is used to assert how things are (or would be) if the speaker is located in (or were to go to) Detroit, Michigan. Instead of letting *at* be used to indicate the time at which something exists, obtains, or occurs, we let use it to indicate the location where something exists, obtains, or occurs, for some location in the set associated with L.

Given this, dynamic hereism can be stated as the thesis that

As of this location, everything exists[103] at this location; as of any location I might go to, everything would exist at that location.

Anywhereism is the thesis that

As of any location L, for anything that exists at L, as of this location L', it exists at L.

In other words,

As of any location L, for anything that exists at L, as of here, it exists at L.

These are straightforwardly analogous to our earlier definitions of presentism and eternalism.

Finally, let us consider how the analogy between dynamic hereism and presentism and between anywhereism and eternalism could fail to hold. Dynamic hereism and anywhereism are two ways of conceiving of the nature of space. I have proposed that presentism and eternalism be treated as two analogous ways of conceiving of the nature of time. It is possible either that one of these analogies fails, or that both do. One of these analogies fails only if either time cannot coherently be conceived of as being like space according to anywhereism, or if time cannot coherently be conceived of as being like space according to dynamic hereism. As the anywhereist conceives of space, what exists is not altered by my moving around; likewise, as the eternalist conceives of time, what exists does not depend on which time is present. As the dynamic hereist

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[103] The word 'exists' here is the *placeless* 'exists' of ordinary English.

conceives of space, what exists is altered by my moving around; likewise, as the presentist conceives of time, what exists does depend on what time is present. If we think at least one analogy is acceptable and one is not, which analogy fails? Philosophers could surely disagree as to the best answer to this question, making it philosophically substantive. Hence, we have a substantive philosophical debate.

We are therefore left with the possibility that time cannot be conceived of as analogous to space according to either anywhereism or dynamic hereism. Some convincing argument is needed to establish that neither analogy is really apt to help us conceive of time. Until such an argument is given, it is legitimate for philosophers to try to conceive of time according to either or both analogies. Consequently, it is legitimate for philosophers to conceive of time according to eternalism or according to presentism. As such, presentism and eternalism are substantive theses about time, and the debate over presentism and eternalism is substantive.

7.3.3 Refuting the Skeptical Argument

In this section I will give my response to the argument from chapter 1 for the conclusion that presentism is not a perspicuous thesis. My criticism of that argument can be applied, with the relevant changes, to the arguments for the conclusions that eternalism, no-futurism, dynamic hereism, and anywhereism are not perspicuous theses as well.

Recall that the skeptic argues as follows. Presentism, the thesis that everything exists at the present time, is ambiguous. It could mean that

Everything that exists now exists at the present time.

This is trivial and hence not substantive. Alternatively, it could mean that

Everything that ever did exist and everything that ever will exist, exists at the present time.

This is obviously false, and also, presumably, not what the presentist thinks. Both readings fail to provide us with a way to understand presentism as a substantive thesis.

My response is that both the thesis that

Everything that exists now exists at the present time,

and the thesis that

Everything that ever did exist and everything that ever will exist, exists at the present time,

are ambiguous.

What makes the skeptical argument for the conclusion that presentism is not a substantive thesis so persuasive is that disambiguating these claims requires the kind of distinction we made previously using locutions involving *as of* and *at*, and, this distinction is easy to overlook.[104] By clarifying the distinction between what is the case *as of* a time and what is the case *at* a time, we can show that the skeptic who argues as in chapter 1 for the conclusion that presentism is not a substantive thesis makes a false dilemma.

Let us consider each thesis in turn. The thesis that

Everything that exists now exists at the present time

can be read in four ways. On three of these readings, it is trivial. On one, it is not. The three trivial readings are as follows:

As of the present time, everything which exists at the present time exists at the present time.

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[104] In conversation, Michael McKinsey has pointed out that ordinary English does contain phrases containing 'as of', like "As of yesterday, the team was two games behind." I am not sure if 'as of' as it appears in such ordinary statements has the same meaning as the 'as of' operator which I am using to state presentism and eternalism as substantive metaphysical theses. Even if it did, it would not be too surprising that some philosophers overlook the distinction.

As of the present time, everything exists as of the present time.

As of the present time, everything that exists at the present time exists as of the present time.

Both the presentist and the eternalist will agree to each of these claims. The non-trivial reading is as follows:

As of the present time, everything exists at the present time.

This is not trivial, for it is true only if the set of times associated with the present time contains only the present time. The presentist believes that this is true, but the eternalist does not. Eternalists think that as of the present time, there are times other than the present time, and there exist things at those other times. This is therefore a substantive thesis.

The skeptic may object as follows. The eternalist, I have claimed, believes that as of the present time, there *are* times other than the present time. But, the skeptic will insist, this statement is ambiguous as to the tense of 'are'. So, this could be read as the thesis that *as of the present time, there are now times other than the present time*. This, the skeptic avers, is obviously false. Alternatively, this statement could be read as the thesis that *as of the present time, there were, are, and will be times other than the present time*. This, the skeptic insists, is obviously true.

The basic response to this kind of objection goes like this. In the statement *as of the present time, there are times other than the present time*, the word 'are' is within the scope of 'as of'. So, unless 'are' is within the scope of another, imbedded 'as of' operator, it ranges only over times in the set of times associated with the present time. Thus, the statement *as of the present time, there were, are, are will be times other than the present*, is not obviously true, because the presentist rejects it. According to the presentist, only one time is in the set of times associated with the present

time, and thus, according to the presentist, it is not the case, as of the present time, that there were and will be times other than the present time.

The thesis that

Everything which ever did exist and everything which ever will exist, exists at the present time

can likewise be read in any of four ways. On one of these readings it is trivially true, on one it is obviously false, and on two it is substantive. The trivial true reading is as follows:

As of the present time, for everything that exists at any time, it exists as of the present time.

Both the presentist and the eternalist will agree that what exists as of the present time is the same as what exists as of the present time. The obviously false reading is:

As of any time there is, was, or will be, for everything which exists, as of the present time it exists at the present time.

Both the presentist and the eternalist will agree that everything which exists as of any time contains more than just what exists at the present time. The first substantive reading is:

As of any time there is, was, or will be, for everything which exists, as of the present time it exists.

The eternalist will accept this, since according to eternalism whatever exists as of each time exists as of any particular time. The presentist, however, will reject it, since according to presentism, as of each time only that which exists at that time, exists. The second substantive reading is as follows:

As of the present time, for everything that exists at any time, it exists at the present time.

The presentist will accept this, since, according to presentism, as of the present time, the present time is the only time, and so everything that exists at any time exists at the present time. The

eternalist will reject this, however, since, according to eternalism, as of the present time, there exist times other than the present, and so not everything exists at the present time.

Finally, let us consider the statement of presentism offered previously in chapter 6:

As of the present time, everything exists at the present time; as of any time there was, everything exists at that time; and, as of any time there will be, everything exists at that time.

The skeptic may argue that the first clause is ambiguous between

As of the present time, everything that exists now exists at the present time,

and

As of the present time, everything that ever did exist or ever will exist, exists at the present time.

The first reading is trivial. The second reading, however, is just what the presentist thinks, so long as "everything that ever did exist and everything that ever will exist" is within the scope of "As of the present time," since according to presentism the only time which exists as of the present time is the present time itself. Thus, we again arrive at a substantive thesis.

I thus conclude that the argument for the conclusion that presentism is not a substantive thesis is fallacious. According to the first premise of that argument, presentism is either the thesis that everything that exists now exists at the present time, or the thesis that everything which ever exist, exists now, or will exist, exists at the present time. In fact, however, the thesis that everything exists at the present time has four readings,[105] one of which is substantive.

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[105] I put aside tenseless readings, such as those discussed in chapter 2.

7.3.4 Prospects for the Skeptic

At this juncture, I want to consider the prospects for the skeptic who believes presentism and eternalism are not substantive philosophical theses. The indefatigable skeptic may persist in claiming that the arguments for the conclusions that presentism and eternalism are not substantive, opposed philosophical thesis are valid. Towards this end, what options does the skeptic have available?

The skeptic cannot defend the claim that the arguments are not fallacious by rejecting the distinction between what exists, obtains, or occurs *as of* and *at* a given time, as that distinction can be understood conventionally, and so does not involve any controversial metaphysical assumptions. Instead, the skeptic must deny that the distinction between what exists, obtains, or occurs *as of* and *at* a given time is metaphysically significant. The skeptic will claim that drawing a distinction between what is the case *as of* a time and what is the case *at* a time is like drawing a distinction between a brother and a male sibling, or between a bachelor and an unmarried man of marriageable status: such a distinction does not track with anything in reality.

To defend this claim, the skeptic must either deny that dynamic hereism and anywhereism are substantive metaphysical theses, or deny the analogy between these views and presentism and eternalism, or both. I have already defended both of these claims, however. Perhaps the skeptic can show that my arguments in defense of either of these claims is unsound, and offer a counterargument against one or both claims. What the skeptic cannot do, without begging the question, is simply reaffirm the arguments from chapter 1. Those arguments have now been put in doubt. Thus, even if I am wrong, the debate between those who think presentism and eternalism are substantive theses and those who deny this has been pushed forward a step. This is real progress.

7.4   Is the As of/At Distinction Necessary?

In chapter 6, I explained the distinction between what is the case *as of* a time and what is the case *at* a time, and gave statements of presentism and eternalism using this distinction. In this chapter I have argued for the conclusion that presentism and eternalism so stated are substantive philosophical theses. Assuming that I have established that presentism and eternalism are substantive philosophical theses, one question which arises is whether we needed the *as of*/*at* distinction to state them as substantive theses.[106] To be clear, the question is not whether we need the phrases 'as of' and 'at' themselves to give substantive statements of presentism and eternalism. Rather, the question is whether we need the kind of distinction which I have used these phrases to express to give substantive statements of presentism and eternalism. I think that we do.

In a way, chapters 1 through 5 of this dissertation together provide powerful inductive evidence for the conclusion that we do indeed require the *as of*/*at* distinction. I would like to make a further case for this conclusion here as well, however.

We want to avoid making presentism into the obviously false thesis that

Everything which ever did exist, does exist, or ever will exist, exists at the present time. To do this, we need it to be consistent with presentism that there used to exist dinosaurs, and that there will exist human colonies on Mars. However, we need a way to understand the claim that dinosaurs used to exist so that it is not equivalent to the claim that there are dinosaurs in the past, and we need a way to understand the claim that there will exist human colonies on Mars so that it is not equivalent to the claim that there are human colonies on Mars in the future. Furthermore, we need it to be the case that the way we understand this claim does not make presentism into an

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[106] I want to thank Eric Hiddleston for useful comments which inspired me to address this question explicitly.

obvious falsehood. For instance, we do not want to make presentism into the thesis that everything that ever did exist or ever will exist, exists at the present time, but statements like "There were dinosaurs," "Plato wrote *The Republic*," and "There will be human colonies on Mars" are nonetheless true.

In order to meet these requirements, we need a way to distinguish the claim that dinosaurs and human colonies on Mars exist when a given time is present, from the claim that dinosaurs and human colonies on Mars exist *during* that time. The distinction between what is the case *as of* a time and what is the case *at* a time, that is, the distinction between what exists, obtains, and occurs at a time and what exists, obtains, and occurs when a time is present, allows us to make this distinction. Thus, although someone might give a substantive statement of presentism without explicitly utilizing the distinction between what is the case *as of* a time and what is the case *at* a time, she must at least implicitly be utilizing the kind of distinction I use these operators to express. I hence conclude that the *as of/at* distinction is necessary for formulating presentism and eternalism as substantive, opposed philosophical theses.

7.5   Concluding Remarks

In this chapter I developed two views about space, dynamic hereism and anywhereism, which I offered as spatial analogues of presentism and eternalism, respectively. I defended the claim that dynamic hereism and anywhereism are substantive metaphysical theses and that they are importantly analogous to presentism and eternalism. Finally, I argued that the skeptical argument for the conclusion that presentism is not a substantive thesis from chapter 1 is fallacious. I thus conclude that presentism and eternalism really are substantive, opposed philosophical theses.

I intend the case I have made here to be convincing even to the skeptic. Even if it is not, however, I believe that what I have said is sufficient to show that the skeptical arguments for the

conclusions that presentism and eternalism are not substantive philosophical theses are questionable. Thus, even if I have not convinced the skeptic, I think genuine progress has been made.

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ABSTRACT

HOW TO UNDERSTAND THE DEBATE OVER PRESENTISM AND ETERNALISM

by

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Presentism is the view that, with the possible exception of things outside of time, everything that exists, exists at the present time. It is contrasted with eternalism, the view that everything which ever did exist or ever will exist, exists. Some philosophers argue that presentism and eternalism are not really substantive, opposed metaphysical theses. I consider some attempts in the literature to rebut this skeptical position, and argue that they are unsatisfactory. Then I make my own case for the conclusion that presentism and eternalism are substantive metaphysical theses by drawing a distinction between two ways of talking about what exists with respect to a time, and imagining a hypothetical analogous debate about the nature of space.

AUTOBIOGRAPHICAL STATEMENT

Travis Figg was born and raised in Jefferson City, Missouri. He earned a B.A. at Westminster College in Fulton, Missouri in 2008 where he double-majored in Philosophy and Religious Studies. For his graduate work, he earned an M.A. in Philosophy at Cleveland State University in 2010, and a PhD in Philosophy at Wayne State University in 2017. Figg's interests reach across the philosophical gamut, though his main research focus lately has been the philosophy of time. Figg is currently at work preparing material for publication and seeking employment. He hopes to be able to continue to teach, read, and write philosophy for a long time.