

# Presentism and Eternalism in Perspective

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Logicians have frequently dwelt upon the equivocation of 'is' as between the "is of identity" on the one hand, and the "is of predication" on the other. The temporal equivocation of 'is' has, however, been little heeded. Yet it is quite clear that there are several very distinct possibilities:

- (i) The "atemporal *is*" that means "is *timelessly*." ("Three *is* a prime number.")
- (ii) The "*is* of the present" that means "is *now*." ("The sun *is* setting.")
- (iii) The "omnitemporal *is*" that means "is *always*." ("Copper *is* a conductor of electricity.")
- (iv) The "transtemporal *is*" that means "is *in the present period*." ("The earth *is* a planet of the sun.")

So begins a paper by Nicholas Rescher, "On the Logic of Chronological Propositions," that appeared in *Mind* in 1966. I will assume with Rescher that 'is' (and other verbs as well, including the verb 'exists'), is temporally equivocal in much the way he sketches, although Rescher's sense (iv) will play no role in the considerations to follow. I will argue that the temporal equivocation of 'is' (and other verbs as well, including the verb 'exists'), has still not been sufficiently heeded by showing that a contemporary debate in the metaphysics of time, the debate between the apparently opposed views known as *presentism* and *eternalism*, can be clarified and enriched when these distinctions are respected.<sup>2</sup>

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<sup>2</sup> Others have also used this distinction in related ways. Recently at least Broad ("Ostensible Temporality," chapter 35 of Volume II of Broad's *Examination of McTaggart's Philosophy*, first published by Cambridge University Press in 1938 and reprinted, with the same pagination, by Octagon Books in 1976.), Smart (Smart, J. J. C., *Philosophy and Scientific Realism* (New York: The Humanities Press, 1963)), Sellars ("Time and the World Order" in *Minnesota Studies in the Philosophy of Science*, Volume III, ed. by Herbert Feigl and Grover Maxwell (University of Minnesota Press, 1962), section 3), Quine (*Word and Object* (The MIT Press, 1960), p. 170), Dorato (Mauro Dorato in *Time and Reality: Spacetime Physics and the Objectivity of Temporal Becoming* (CLUEB, 1995), section 6.1) and Mellor (*Real Time II* (Routledge, 1998), chapter 7) have employed some tensed/tenseless verb distinction in discussions of time.

Before turning to this issue, it will be useful to clarify a few preliminary matters. First, another ‘is’ distinct from those above should be distinguished, the *detensed* ‘is’. To say that  $x$  is (detensed)  $\Phi$  is to say that either  $x$  was  $\Phi$  or  $x$  is  $\Phi$  or  $x$  will be  $\Phi$ . Generally, for any verb  $V$ , to say that  $x$  Vs (detensed) is to say that either  $x$  has  $Vd$  or  $x$  is  $Ving$  or that  $x$  will  $V$ . I call this a *detensed* verb since there is no contrasting past or future tense of this verb.<sup>3</sup>

Second, in contexts where it is necessary or helpful to disambiguate, I will indicate the present tense verbs (ii) by writing them in lower case, detensed verbs by capitalizing the first letter, and atemporal (or tenseless) verbs (i) by writing them entirely in capital letters.

Finally, one should note that in the context of the presentism/eternalism debate, expressions like ‘ $x$  is real’ and ‘ $x$  exists’ tend to be used interchangeably, even if they diverge in other contexts.<sup>4</sup>

## I. Presentism or Eternalism?

In the contemporary debate in philosophy of time it is typically supposed that there is some thesis that presentists affirm and that eternalists deny. For instance, Ted Sider says, “Presentism is the doctrine that only the present is real... A presentist thinks that everything is present; more generally, that, necessarily, it is always true that everything is (then) present.”<sup>5</sup> Sider continues by pointing out that presentism is opposed to eternalism:

*Presentism* is the temporal analogue of the modal doctrine of *actualism*, according to which everything is actual. The opposite view in the philosophy of modality is *possibilism*, according to which nonactual

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<sup>3</sup> One might also reasonably consider this verb tensed because it is a disjunction of tensed verbs. This is the view of E. J. Lowe in “Tense and Persistence” in *Questions of Time and Tense*, ed. R. Le Poidevin (Oxford University Press, 1998). For a charming introduction to the complexity of tense as seen by a linguist, see David Crystal’s “Talking about Time” in *Time*, edited by Katinka Ridderbos (Cambridge University Press, 2002).

<sup>4</sup> One might even think there is a distinct ‘is’ of existence in this neighborhood, though it is not often encountered.

<sup>5</sup> “Presentism and Ontological Commitment”, *The Journal of Philosophy* **96** (1999): 325-6.

things exist; its temporal analogue is *eternalism*, according to which there are such things as merely past and merely future entities.<sup>6</sup>

How is one to understand the verb ‘are’ in the clause defining eternalism? Is it Rescher’s second sense, so that eternalists are supposed to hold that, say, Isaac Newton (now) is, exists, or is real? Such a reading risks making one pole of the opposition, eternalism, false in light of obvious facts and hence reducing the debate to triviality.

Isaac Newton was born in 1642 and so, in the manner of speaking usually employed in discussing the presentism/eternalism issue, came into existence then. He died in 1727, and so, in that same manner of speaking, he ceased to exist then. It is possible to deny these facts. One might believe, for instance, that the world was created at some time after the date we call 1727, complete with historical records. In that case, Isaac Newton never existed even though our world abounds with copies of *Principia*. Or it may be that one views history as a set of plausible narratives that we orient our intellects with—useful but by no means true stories. It may even be that efforts to understand quantum mechanics or quantum gravity lead one to skepticism about the past.<sup>7</sup> I cannot refute these sceptical hypotheses, but I will ignore them in what follows. Those who hold either of these views may find the arguments below unconvincing (as may others, of course).

A more sophisticated strategy is not to deny these common facts but rather to deny that they can be stated. If one believes that the proposition expressed by

(1) Isaac Newton was born in 1642

must contain Isaac Newton and that Isaac Newton does not exist, then one must believe that (1) expresses no proposition.<sup>8</sup> All I can say in response to this view is that the conclusions follow from presentism and certain current views about language and propositions. Like a good Duhemian I can point out that one may retain the literal truth of (1) (while allowing, of course, for the possibility of surprises in historical research) and presentism by bracketing the other claims about language and propositions. I aim in this paper to examine presentism neat and not presentism plus a philosophy of language.

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<sup>6</sup> Ibid, 326.

<sup>7</sup> See “Quantum Mechanics for Cosmologists” in J. S. Bell’s *Speakable and Unsayable in Quantum Mechanics* (Cambridge University Press, 1987) and Julian Barbour’s *The End of Time* (Oxford University Press, 1999), especially Chapter 21.

<sup>8</sup> See Ned Markosian, “A Defense of Presentism”, forthcoming in *Oxford Studies in Metaphysics*, Volume I, especially section 3.8. This paper is available at Markosian’s web site.

Granted these common facts about Newton’s birth and death, then, if one reads eternalism as saying that Isaac Newton exists,<sup>9</sup> then one reads it as an obviously false view. I’ll take it as a working hypothesis that there is an interesting philosophical dispute between presentism and eternalism, and so a reading of the views that makes one either obviously true or obviously false (that is, either logically true or self-contradictory or true or false in light of such obvious facts as those about Newton indicated above) is a reading that likely misses the philosophical point.

A second working hypothesis (or presupposition) of this section of the paper will be the generally shared view that the way to distinguish two positions is to find some univocal proposition asserted by one and denied by the other. If such can be found, then at least one of the two sides is incorrect. It is notable, though, that Sider (“Quantifiers and Temporal Ontology” unpublished, p. 2) understands the structure of the debate in a different manner. He claims that eternalists and presentists have different ways of understanding the assertion, if I may substitute my running example for Sider’s, that Newton existed and that these different understandings “reveal a genuine disagreement”. But if eternalists and presentists understand the assertion that Newton existed differently, then it is at least logically possible that both sides have a correct understanding, at least in their own terms. I will argue in section II below that both sides do in fact have a correct (but partial) understanding and that a philosophy of time should aim for a synthesis of the two rather than the elimination of one.<sup>10</sup>

Returning to the paragraph from Sider’s paper quoted above and to the argument begun paragraph-before-last, suppose we shift from the tensed to the detensed reading of ‘is’ and understand the last clause to say that eternalism is the view that there Are such things as merely past and merely future entities. If eternalism is supposed to affirm that there either were or are or will be (say) merely past entities (like Isaac Newton), then presentism is supposed to deny this claim, rendering *it* (modulo the plain facts I cited above) obviously false. Again, we have not found a suitable way of expressing these views.

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<sup>9</sup> In Rescher’s sense (ii), remember, given that this verb is written in all lower case letters.

<sup>10</sup> And so when Sider (unpublished) says “As I see it, the skeptic must take her stand here, and challenge the alleged difference between a quantified claim and a claim that consists of a quantified claim embedded in a tense operator”, I demur. My skepticism is quite consistent with the alleged difference in logical form being a real difference in logical form. It may even depend on the existence of such systematic differences. (It is worth noting, though, that in section of 2 of his unpublished paper Sider does try to isolate an assertion that presentists deny but eternalists affirm. That assertion uses an “unrestricted” quantifier, a matter discussed below in the text of this paper.)

If we turn to Rescher's sense (i) and suppose that eternalism is the view that there ARE such things as merely past and merely future entities, matters become murky.<sup>11</sup> Perhaps one should take the idea that this verb is timeless quite literally and suppose that entities that ARE are simply not in time at all. Arthur Prior seems to suggest this way of understanding tenseless verbs when he comments on the sentence

(2) The firing of the guns IS an event which will take place tomorrow.

“What place can a word like ‘tomorrow’ have in a strictly tenseless form?”<sup>12</sup> On this restrictive view of tenseless verbs it is meaningless (or ill-formed or perhaps at best false) to claim that there ARE (or ARE not) such things as merely past, present, or future entities because these narrowly construed tenseless verbs cannot have temporal entities as subjects. Tenseless verbs understood so narrowly seem singularly ill-adapted to express or distinguish metaphysical views like presentism and eternalism.

Suppose tenseless verbs apply to temporal as well as non-temporal entities. One might admit as meaningful or truth-valued sentences like ‘Socrates SITS at t’ or possibly even just ‘Socrates SITS’, along with sentences like ‘Three IS greater than two’. But how is one to understand these sentences? One suggestion I find useful is that we think of the tenseless verbs in such sentences as like ordinary tensed verbs but lacking all temporal information (just as ordinary verbs lack spatial information) while compatible or consistent with the addition of temporal information.<sup>13</sup> On this understanding of tenseless verbs, the claims ‘Isaac Newton EXISTS in 1666’ and ‘Isaac Newton EXISTS’ are well-formed.

This broad tenseless verb is *prima facie* distinct from the detensed verb, since the latter applies only to temporal entities. The broad tenseless verb then supplies a univocal sense in which both I and the number three can be said to EXIST. It should also not be difficult to distinguish tenseless from tensed (senses of) verbs. For instance, one might require that the tenseless verbs be non-indexical with respect to time, to use a

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<sup>11</sup> If there are only two senses or shades of the copula, the tensed and the detensed versions sketched above, then my negative thesis can be established easily. Refusing to explore the possibilities for an additional tenseless sense would seem to limit arbitrarily the tools one might use to try to fashion a traditional presentism/eternalism distinction.

<sup>12</sup> See pp. 105-6 of “Tenses and Truth in the History of Logic” in his *Time and Modality* (Oxford University Press, 1957).

<sup>13</sup> Following Mellor in *Real Time II*, Chapter 7, section 3.

term introduced (as far I am aware) by Philip Percival.<sup>14</sup> What this requirement means is that the truth conditions of a token of a type sentence containing a tenseless verb do not depend on the token's temporal location (in contrast to the truth conditions of tokens of sentences containing a tensed verb).<sup>15</sup> This independence of temporal location is clear when the subjects or *relata* are not temporal entities; but, if the requirement is to be met generally, it must also hold for assertions concerning mere temporal entities, else we import features of the tensed verb into a context from which they should be excluded.

What temporal entities can be said to EXIST in this new broad sense? One would think that a minimal commitment is that at least the things that exist (now) EXIST, else this broad tenseless verb risks becoming empty.<sup>16</sup> To return to my running example, in 1666 one could have said truly 'Isaac Newton EXISTS' since in 1666 one could say truly 'Isaac Newton exists'. If the tenseless verb is non-indexical with respect to time, however, it must *now* be true to affirm

(3) Isaac Newton EXISTS,

although of course it is now false to claim

(4) Isaac Newton exists.

There may be much about tenseless verbs that is obscure, but it does seem clear that if the tenseless verb is as I have characterized it, there are interesting philosophical payoffs. First, presentists and eternalists as such cannot differ with respect to the truth of (3) without differing about an obvious fact. Furthermore, consider the following sentence as one on which presentism and eternalism might be supposed to differ:

(5) Everything that EXISTS exists (presently).

As long as one can instantiate the quantifier in (5) with Isaac Newton, then the truth of (3) and the falsity of (4) renders (5) false. Anyone, whether presentist or eternalist, who understands the tenseless verb in the way I have described and who allows instantiation

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<sup>14</sup> In "A Presentist's Refutation of Mellor's McTaggart," which appeared in *Time, Reality, and Experience*, ed. by Craig Callender (Cambridge University Press, 2002), p. 101.

<sup>15</sup> In the language of David Kaplan's "Demonstratives" (in *Themes from Kaplan*, edited by J. Almog, J. Perry, and H. Wettstein: New York and Oxford, Oxford University Press, 1989) tenseless verbs have a fixed character whereas tensed verbs (if, for example the present tense verb is thought of as having an implicit indexical 'now') have a context-sensitive character.

<sup>16</sup> Looking ahead to sentence (5), without this minimal commitment presentist would not be able to claim that all present entities EXIST, slimming their ontology to perhaps some proper subset of present entities.

of the universal quantifier with Newton must agree that (5) is false.<sup>17</sup> If one understands tenseless verbs in some other way that yields a different result, one is obliged to present this alternative.

We have now examined the three most promising ways of construing verbs without finding a satisfactory distinction between presentism and eternalism,<sup>18</sup> but there is more complexity to contemporary attempts to make the distinction than I have so far acknowledged. I will argue that this additional complexity serves merely to camouflage rather than remedy the problems that I've just indicated.

In the metaphysics of modality there is, as Sider pointed out above, a distinction to be made between actualism and possibilism. Actualism is the view that “the only things that exist are objects that exist in the actual world,”<sup>19</sup> whereas “realism about unactualized possibles [i.e. possibilism] is exactly the thesis that there are more things than actually exist.”<sup>20</sup> Since it is claimed that time is like modality,<sup>21</sup> it is claimed that an analogous distinction can be made between presentism and eternalism.

The analogy between time and modality is a formal one. Temporal logics have been developed in which the operators and semantics are analogous to the operators and semantics of modal logics. The analogy has been fruitful, but formal analogies do have limits. The differential equation that governs the motion of a mass at the end of a vertical spring has exactly the same form as the equation that governs the variation in charge in a particular simple series electrical circuit.<sup>22</sup> This analogy too has been fruitful (in analog computing), yet mass is quite different from charge and each obeys different laws.

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<sup>17</sup> If one does not allow instantiation with respect to past or future objects like Newton but only with respect to (say) presently existing objects, then of course both eternalists and presents will agree that (5) is true. Questions about the ranges of quantifiers will be addressed below.

<sup>18</sup> Recently, there seems to be a tendency in the literature to follow attempts to distinguish presentism from eternalism with arguments defending against claims of trivialization like those above. In addition to Sider's arguments, one might see footnote 3 in Ned Markosian's "A Defense of Presentism", footnote 1 in Matthew Davidson's response to Sider "Presentism and the Non-Present" *Philosophical Studies* 113 (2003): 77-92, and section II of H. Scott Hestevold and William R. Carter's "On Presentism, Endurance, and Change" in *Canadian Journal of Philosophy* 32 (2002): 511-542. (I commented along the above lines on an earlier draft of Hestevold and Carter's paper at the Pacific Division meeting of the APA in Seattle, Washington in March of 2002.) And there are papers by Thomas Crisp and Peter Ludlow forthcoming in *Oxford Studies in Metaphysics*, Volume I, that look at the move to trivialize the presentism/eternalism issue in detail.

<sup>19</sup> Michael Loux's introduction to *The Possible and the Actual* (Cornell University Press, 1979), p. 48.

<sup>20</sup> David Lewis in *Counterfactuals* (Basil Blackwell, 1973) p. 86.

<sup>21</sup> Section 3.7 of Markosian's "A Defense of Presentism" in an extended defense of this claim.

How is the formal similarity between presentism/eternalism and actualism/possibilism supposed to help in formulating a non-trivial presentism/eternalism distinction? Let me quote from footnote 1 of Matthew Davidson's paper, cited above:

Presentism is to be understood in a manner analogous to the manner in which actualism is understood, where actualism is the view that necessarily, whatever there is exists actually. The universal quantifier in the statement of actualism is "loosed" so that it may range over possibilia. Similarly, with presentism, the universal quantifier in the statement of the view is "loosed" so that it may range over past and future objects. Both presentism and actualism employ unrestricted quantification in their definitions to avoid the trivially true/obviously false objection. Unfortunately, when this is pointed out to those who think presentism is either trivially true or obviously false, they tend not to understand the notion of unrestricted quantification.

Despite the widespread use of the notion of unrestricted quantification in this literature,<sup>23</sup> there is good reason for doubting its intelligibility. While it is easy to see that the notion of restricted quantification can be given a precise meaning (quantification over some set **D'** which is a proper subset of some given set **D**), it does not *follow* that the notion of "our most unrestricted quantifiers" is well-defined.<sup>24</sup> Since the 'exists' that occurs in the presentism/eternalism debates is connected (as noted above) to the notion 'is real', one should bear in mind J. L. Austin's observation that

...a definite sense attaches to the assertion that something is real, a real such-and-such, only in the light of a specific way in which it might be, or might have been *not* real.... This, of course, is why the attempt to find a characteristic common to all things that are or could be called 'real' is doomed to failure; the function of 'real' is not to contribute positively to the characterization of anything, but to exclude possible ways of being *not* real—and these ways are both numerous for particular kinds of things, and liable to be quite different for things of different kind.<sup>25</sup>

Austin does not think that 'exists' is in all contexts just like 'is real'. He writes, "Exist', of course, is itself extremely tricky. The word is a verb, but it does not describe

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<sup>22</sup> The analogy is spelled out in sections 3.7 and 3.8 of Boyce and DiPrima's *Elementary Differential Equations and Boundary Value Problems*, 4e (John Wiley and Sons, 1986).

<sup>23</sup> Here, for one, the second sentence of Markosian's "A Defense of Presentism": "According to Presentism, if we were to make an accurate list of all the things that exist—i.e., a list of all the things that our most unrestricted quantifiers range over—there would be not a single non-present object on the list."

<sup>24</sup> Sider later (in his *Four-Dimensionalism* (Oxford University Press, 2001), pp. xvi and p. 15-17 especially) recognizes this point and *assumes* that the notion of an unrestricted quantifier is well-defined.



something that things do all the time, like breathing, only quieter—ticking over, as it were, in a metaphysical sort of way. It is only too easy to start wondering what, then, existing *is*.”<sup>26</sup> We needn’t emulate Austin by trying to uncover all the trickiness of ‘exist’. What we need to see is that, in the context of this debate, ‘exist’ has a definite meaning only when it is (tacitly or overtly) contrasted with some way in which a thing (or event or whatever) may fail to exist—a thing may have existed formerly or be going to exist eventually or be merely possible or fictional or imaginary or... When the contrast class is specified, then, I claim, there has not been exhibited an existence claim about which presentists and eternalists need disagree. You exist or are real, as opposed to Newton, because he once existed but does not now. Newton exists or (much better) is real, as opposed to Santa Claus (that is, Newton Exists or Is real, as opposed to Santa Claus), because Santa Claus is imaginary. Ned Markosian thinks that Newton “is in the same boat as Santa Claus”,<sup>27</sup> but I suggest that always indicating the proper contrast class will provide us with enough boats to keep them separate.

To put the point of this argument another way: if the notion of “the real” (*simpliciter*, one might say—the real as such and not as opposed to some way of failing to be real) is ill-defined without specification of a contrast class, as Austin so persuasively argued, then so is the notion of a domain for “our most unrestricted quantifier” without some specification of its contrast class (some specification beyond, of course, the equally empty “the non-existent”).<sup>28</sup>

It will be useful, though, to waive this general argument for a moment and see what can be done by way of building up some understanding of “unrestricted quantification”. As a first step, we can certainly understand quantification. Quantifiers are syntactic strings in formal languages that are, on the one hand, intended to be formal precisizations of bits of English (or whatever natural language is at issue) but are also given meaning, given a semantics, when they are assigned some domain of objects **D** in which they are interpreted according to certain well-known rules for assigning truth values. But all precisizations of natural language expressions come with *caveats*, as all who have taught a logic class know. The material conditional in classical propositional

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<sup>25</sup> Austin, J. L. *Sense and Sensibilia* (Oxford, 1962), p. 70.

<sup>26</sup> *Sense and Sensibilia*, p. 68.

<sup>27</sup> “A Defense of Presentism”, section 3.7.

logic roughly corresponds to one use of “If..., then...” but not to others. So, similarly, to what sense of ‘exist’ (Exist? EXIST?) is the existential quantifier meant to (roughly) correspond?<sup>29</sup>

Can we then understand “loosed” or unrestricted quantification? We can get some idea of the intended domain **D** for an unrestricted quantifier from Lewis when he says:

Our idioms of existential quantification may be used to range over everything without exception, or they may be tacitly restricted in various ways. In particular, they may be restricted to our own world and things in it.<sup>30</sup>

To what expression in English, then, does this unrestricted quantifier (more-or-less) correspond? To one either found or invented by Lewis:

You might think that strictly speaking only this-worldly things *really* exist; and I am ready enough to agree; but on my view this ‘strict’ speaking is *restricted* speaking, on a par with saying that all the beer is in the fridge and ignoring most of all the beer there is. When we quantify over less than all there is, we leave out things that (unrestrictedly speaking) exist *simpliciter*.<sup>31</sup>

Lewis’s unrestricted quantifier is intended to include but not be restricted to our own world. Let me remind you of what he understands our world to be.

The world we live in is a very inclusive thing. Every stick and every stone you have ever seen is part of it. And so are you and I. And so are the planet Earth, the solar system, the entire Milky Way, the remote galaxies we see through telescopes, and (if there are such things) all the bits of empty space between the stars and galaxies. There is nothing so far away from us as not to be part of our world. Anything at any distance at all is to be included. Likewise the world is inclusive in time. No long-gone ancient Romans, no long-gone pterodactyls, no long-gone primordial clouds of plasma are too far in the past, nor are the dead dark stars too far in the future to be part of this same world.<sup>32</sup>

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<sup>28</sup> In his paper forthcoming in *Oxford Studies in Metaphysics*, Volume I, Peter Ludlow argues from some linguistic principles for what he calls (NLQR)—[All] Natural Language Quantification is Restricted. I take Austin’s argument to be an argument for (NLQR) as well.

<sup>29</sup> And so my remark that focusing on the existential quantifier tends to camouflage the fact that it is being related to an expression in English that has many shades of meaning. One can no more equivocate between the senses of ‘exist’ sketched above in interpreting the existential quantifier than one can use ‘ $\supset$ ’ for both material and counterfactual conditionals or ‘ $\vee$ ’ for both inclusive and exclusive disjunction.

<sup>30</sup> *Counterfactuals*, p. 86.

<sup>31</sup> *On the Plurality of Worlds* (Basil Blackwell, 1986), p. 3.

<sup>32</sup> *Ibid.* p. 1.

If this term is invented by Lewis who is explaining how it (and its associated expression ‘exists *simpliciter*’) is to be understood, then it cannot be used to make a non-trivial distinction between presentism and eternalism. The point can be made most clearly by considering the arguments in a recent paper by Hestevold and Carter. They begin their discussion of presentism with the standard general form of the allegedly characterizing sentence:

P<sub>1</sub> Necessarily, if  $x$  exists, then  $x$  presently exists.<sup>33</sup>

They reject various readings of the first occurrence of ‘exists’ in P<sub>1</sub>. In particular, they reject the detensed verb, which yields

P<sub>4</sub> Necessarily, if  $x$  presently exists,  $x$  did exist, or  $x$  will exist, then  $x$  presently exists.

They reject P<sub>4</sub> because (if I may substitute my own running example for theirs) Isaac Newton did exist but he does not presently exist. The detensed verb ‘Exist’ ranges over our world (or at least the spatiotemporal part of it) and that range includes (at least, on page 496 of their paper) Newton.

On page 499 they offer their own supposedly non-trivial version of presentism:

P<sub>6</sub> Necessarily, if  $x$  exists simpliciter, then  $x$  presently exists.

But according to Lewis, since everything in our world and in all other possible worlds exists *simpliciter*, P<sub>6</sub> should be understood as follows:

P'<sub>6</sub> Necessarily, if  $x$  presently exists,  $x$  did exist,  $x$  will exist, or  $x$  possibly exists, then  $x$  presently exists.

If P<sub>4</sub> is trivially false, then it is hard to see how P<sub>6</sub> (that is, P'<sub>6</sub>) could not also be trivially false for (at least) the same reason. If ‘Exists’ cannot do the job, then ‘exists *simpliciter*’ cannot do the job either.

I have been reading Lewis as if he were introducing a new technical term or unfamiliar locution (‘exist simpliciter’) and explaining to us how it is to be understood. Perhaps this reading is incorrect.<sup>34</sup> Perhaps we are expected to understand antecedently ‘exists simpliciter’ and Lewis is best understood as telling us what he thinks so exists, as

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<sup>33</sup> I will use the same labels as they when citing labeled propositions from their paper.

<sup>34</sup> As Michael Nelson pointed out to me.

presenting a theory of what so exists. If so, then I have at least tried to provide one way to understand ‘exist simpliciter’ with the broadly-construed tenseless verb ‘EXIST’ described above. If this suggestion is accepted, then Hestevold and Carter’s  $P_6$  and  $P'_6$  are trivially false for the same reason that (5) is false. If this suggestion is not accepted, then we are owed some explanation of the meaning of ‘exist simpliciter’ by those who think that it is distinct from the present tense ‘exist’ and the detensed ‘Exist’ and can be used to make an important presentism/eternalism distinction.

There is one further line of argument that must be addressed, for it might seem to expose as naive the use that I’ve been making of the supposedly obvious facts about Isaac Newton. Consider a paragraph from Sider’s paper that begins, “Where possibilists and eternalists speak with quantification, actualists and presentists make do with irreducible sentence operators.”<sup>35</sup> Perhaps there are some distinctions, some subtle scope distinctions with tense operators, that allow one to find an assertion affirmed by a presentist and denied by an eternalist (or vice versa). Indeed, that is just what Sider suggests.

Presentists, according to Sider, can acknowledge the obvious facts about Newton consistent with their view by using tense operators:

(6) was (there is an  $x$  such that  $x = \text{Newton}$ ).

Since the existential quantifier (So presentists speak with quantifiers too!) is within the scope of the tense operator, this sentence does not carry a commitment to the present existence of Newton. Of course, eternalists need not and will not deny (6).

But in addition to (6) eternalists (and eternalists only, presumably) supposedly *can* say

(7) There is an  $x$  such that is ( $x = \text{Newton}$ ).

This sentence does carry a commitment to the present existence of Newton, and so presentists must deny it. Or must they? Which ‘is’, exactly, is supposed to be used in the initial existential quantifier in (7)? If the ‘is’ is present tense, certainly presentists will deny it, but then I see *no reason* why eternalists should affirm (7) understood in this way, as Sider claims. There need be nothing existing now that was identical to Newton. If you whip up some mereological tale in which (for example) presently existing but

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<sup>35</sup> “Presentism and Ontological Commitment”, p. 326.

scattered atoms of Newton’s body can be said to have been Newton, then you have imagined a situation in which presentists would join eternalists in affirming (7).

If the ‘is’ in the initial existential quantifier is the detensed verb, then eternalists should certainly affirm (7), but so should presentists. If the ‘is’ is ‘IS’, then the verb in the quantifier is non-indexical with respect to time whereas the tense operator within its scope must form sentences whose truth value is responsive to their temporal location. It does not seem possible to provide a coherent interpretation for such a sentence, so eternalists and presentists alike should pronounce (7) so understood ill-formed.

I believe that we have now exhausted the possibilities for making the presentism/eternalism distinction in the usual way. Rather than declaring the issue an empty one, however, I propose to look at the distinction in a new and (I hope) illuminating way.

## II. Presentism and Eternalism

After these negative arguments, I would like to take two positive steps towards re-defining the presentism/eternalism debate. The first stems from the observation that those who defend presentism rarely, if ever, indicate what they take the present to be, aside from sometimes indicating that they intend the temporal rather than the spatial present. It is, of course, obvious what the present consists in *if* one assumes as background spacetime structure that which is implicit in common sense or classical physics—say Galilean spacetime,  $\mathbf{G}$ .<sup>36</sup> The present is a particular set of simultaneous events in  $\mathbf{G}$ , the ones occurring now.<sup>37</sup>

At this point philosophers divide into two camps. One camp is willing to follow modern physics in thinking that, no matter what we don’t know yet about spacetime, we

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<sup>36</sup> As described in chapter 3 of Robert Geroch’s *General Relativity from A to B* (The University of Chicago Press, 1978). The structure is often called *neo-Newtonian spacetime*.

<sup>37</sup> Sider offers an assumption that entails that there can be no such set as  $\mathbf{G}$ . He writes “I am assuming that the presentist assumes that it is always the case that sets exist only if their members do.” (Op. cit. p. 327) I know of no presentist who explicitly makes this assumption and see no reason why presentists need to treat abstracta this way as

have abundant evidence that the spacetime of our universe is not Galilean spacetime. Such philosophers are deprived of a notion of observer-independent simultaneity and hence the familiar present of common sense.

Philosophers in the second camp resort one way or another to an instrumentalist interpretation of relativistic spacetime theories. I can only note here the sprawling debate concerning instrumentalism and realism in scientific theories and indicate my partiality to the realist side. I prefer to derive metaphysical insights from rather than import them into our most well-confirmed theories. The constructive point I hope to get across, though, is that from a realist perspective it becomes clear that one has to state what eternalism and presentism are *relative to some background spacetime theory*. If a proper presentism/eternalism distinction has eluded formulation, perhaps a partial explanation of why this is so lies in the fact that those engaged in the debate have typically left out of consideration one term in a relational notion.

As a step towards my second point, let me try to state presentism and eternalism assuming Galilean spacetime. An adequate characterization of presentism in classical spacetime structures might go as follows, where the events  $e$  are taken to be instantaneous events.

- CP1 Spacetime is a set of events,  $G$ , having the structure of Galilean spacetime.
- CP2 In particular, Galilean spacetime can be foliated uniquely into hyperplanes of simultaneity, which are equivalence classes of simultaneous events.
- CP3 The present for an event  $e$  is the hyperplane of simultaneity that contains  $e$ .
- CP4 Hyperplanes of simultaneity occur successively.
- CP5 The existence of an event is its occurrence.

Eternalists would replace CP5 with

- CE5 An event  $e$  Exists iff  $e \in G$ .<sup>38</sup>

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opposed to regarding them as atemporal or perhaps even as sempiternal. (A computer cannot be in a room when it does not exist. Is it also the case that it cannot be in a set when it does not exist?)

<sup>38</sup> Characterizing eternalism coherently is at least as difficult as characterizing presentism. Frequently, eternalists are said to hold a static view of time in which events “timelessly coexist” (as in Barry Dainton’s text *Time and Space* (McGill – Queen’s University Press, 2001), chapter 1.) This latter expression inevitably carries the spurious implication that all real (point) events are simultaneous. I hope that CE5 finesses at least that problem. Mauro Dorato points out some other possible misunderstandings in chapter 6 of *Time and Reality: Spacetime Physics and the Objectivity of Temporal Becoming* (CLUEB, 1995).

If the distinction between (classical) presentism and eternalism comes to the difference between CP5 and CE5, then the two views are not incompatible. One should not hastily conclude, however, that alleged difference between these venerable positions has been shown to be *merely* verbal. The difference between CP5 and CE5 reflects a difference in perspective as well as a difference in language. Presentists adopt a point of view that is close to temporal experience, confronting the actually occurring, as opposed to merely past or future, events. Eternalists consider the totality of actual, as opposed to merely possible or otherwise non-historical, events. The latter perspective seems necessary for physics, for the determination of the geometric structure of spacetime. The former perspective is, as it were, that of those living inside the structure contemplated by the latter from “outside”. Michael Dummett beautifully captures this contrast, though in another context:<sup>39</sup>

What the [eternalist] would like to do is to stand in thought outside the whole temporal process and describe the world from a point which has no temporal perspective at all, but surveys all temporal positions at a single glance: from this standpoint—the standpoint of the description which the [eternalist] wants to give—the different points of time have a relation of temporal precedence between themselves,<sup>40</sup> but no temporal relation to the standpoint of the description—i.e., they are not being considered as past, as present or as future. The [presentist] takes more seriously the fact that we are immersed in time: being so immersed, we cannot frame any description of the world as it would appear to one who was not in time, but we can only describe it as it is, i.e., as it is now.<sup>41</sup>

Each perspective is compelling, unless it errs by thinking that it is the only point of view worth taking. But since these perspectives are formally compatible, one might be

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<sup>39</sup> In order to adapt the extract from Dummett to the present context I have substituted ‘eternalist’ for ‘realist’ and ‘presentist’ for ‘anti-realist’.

<sup>40</sup> My note. Once one abandons classical spacetime structure, then it is *not* true that every pair of distinct “points of time” stand in a relation of temporal precedence. In Minkowski spacetime, there are pairs that stand in such a relation only relative to a choice of inertial frame.

tempted to wonder whether there is a way to have both. I believe the answer is *yes*, but I am not able to give an account of the reconciliation. What I can do is point out that such reconciliation might be viewed as a chapter in one or another of the naturalistic metaphysical programs of our time. One could view this reconciliation, for instance, as part of Wilfrid Sellars' attempt to fuse what he calls the manifest and the scientific images into one truly textured image, as one fuses two similar but distinct images into an image with depth in a stereoscopic viewer.<sup>42</sup> Or one might see it as a step towards what Abner Shimony calls *closing the circle*:

The program [of closing the circle] envisages the identification of the knowing subject (or more generally, the experiencing subject) with a natural system that interacts with other natural systems. In other words, the program regards the first person and an appropriate third person as the same entity. From the subjective standpoint the knowing subject is at the center of the cognitive universe, and from the objective standpoint, it is an unimportant system in a corner of the universe.<sup>43</sup>

Philosophy of time aims at a coherent naturalistic picture of the experiencing subject with its felt time in an experienced universe with its spatiotemporal structure. If this conjecture is correct, then the victory of either side in the dialectic described in section I of this paper would result in a one-sided and shallow account of time.

Some think otherwise, of course. In his discussion of “the stock philosophical debates about time” Huw Price<sup>44</sup> makes it clear that he believes that if the eternalist point of view is vindicated, then the presentist perspective is demoted to that of mere appearance. A subtler difference is with those who base their views on microphysics. J. Robert Oppenheimer might seem to share my view when he wrote, “These two ways of thinking, the way of time and history and the way of eternity and of timelessness, are both part of man's effort to comprehend the world in which he lives. Neither is comprehended in the other nor reducible to it.”<sup>45</sup> Oppenheimer's view is motivated by the phenomenon of “complementarity” in quantum mechanics, the impossibility of

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<sup>41</sup> From p. 369 of Dummett's “The Reality of the Past” as reprinted in *Truth and Other Enigmas* (Harvard University Press, 1978). The paper first appeared in the *Proceedings of the Aristotelian Society*, n.s., vol. LXIX, London, 1969, pp. 239-58.

<sup>42</sup> See his “Philosophy and the Scientific Image of Man” in *Science, Perception, and Reality* (The Humanities Press, 1963), pp. 1-40.

<sup>43</sup> On p. 40 of “Reality, Causality, and Closing the Circle” in Abner Shimony, *Search for a Naturalistic World View*, Volume I (Cambridge University Press, 1993).

<sup>44</sup> Pp. 12-16 of his *Time's Arrows and Archimedes' Point* (Oxford University Press, Oxford; 1996).



simultaneous measurement of certain pairs of observables, whereas my view is motivated by the sort of naturalism mentioned in the previous paragraph.

These general differences won't be settled by crisp arguments but by exhibiting the advantages of one's views. I'd like to end then by showing how the dual perspective I favor can deal with an appealing and powerful argument presented by Craig Callender, criticizing what he calls "hybrid views" of time. He wrote:

Hybrid views acknowledge that the world may be thought of as an existent four-dimensional entity, like B-theorists, but retain the idea that there is something special about present times, like A-theorists. Because hybrid theories accept that a four-manifold is the arena of world history, they cannot—on pain of coherency—analyze becoming in terms of the coming into existence of events. It simply doesn't make sense to say an existent event comes into being.<sup>46</sup>

The sort of presentist I have invoked above does believe that, since an event's existence is its occurrence, an event comes into being when it occurs. But if the existence of an event for an eternalist is simply its being in G, then an implication of my contrast between eternalism and presentism is that it is perfectly coherent for an Existent (in the eternalist sense as a member of G) event to come into being in the presentist sense (that is, to occur at its allotted instant).

If hybrid (or synthetic or fusion) theories manage in this way to be coherent, then, I suggest, they may be just what is needed in philosophy of time. If such theories can draw upon both the internal and external perspectives, they have the resources needed to tackle two fundamental questions of philosophy of time—the (external) question as to the nature or structure of spacetime itself and the (internal) question as to how, in such a structure, one can account for the experience of creatures like us. More, like a theory of quantum gravity or an account of our perceptual or cognitive processes and

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<sup>45</sup> *Science and the Common Understanding* (Simon and Schuster, New York; 1953, 1954), p. 69.

<sup>46</sup> P. S590 of "Shedding Light on Time," Callender's contribution to the symposium "Prospects for Presentism in Spacetime Theories" in *Philosophy of Science* Supplement to Vol. 67, No. 3 (2000).

resources, may be required for a complete answer to these questions, but it is difficult to see how we could make do with less.