

## Chapter 6

# Presentism and Eternalism in Perspective

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[H]ere ... the assertions, which are set in opposition to one another, through mere misunderstanding, can both be true.

(Kant, *Prolegomena to Any Future Metaphysics*, §53)

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 not been sufficiently heeded to this day by showing in Sections 1 and 2 that current attempts to define the supposed opposition between two positions in the ontology of time, presentism, and eternalism, fail primarily because they do not take proper

account of this equivocation<sup>1</sup>. In Section 2, I will show how these two views *can* be formulated, but they will not be contradictory. Both would be true provided space-time structure is what classical physics and common sense take it to be.

Before turning to the main discussion, 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  $\Phi$ , where the verb in each disjunct is tensed. 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>2</sup>.

Second, in contexts where it is necessary or helpful to disambiguate, I will use bold face type and indicate tensed verbs by writing them in lower case, detensed verbs by capitalizing the first letter, and atemporal (or tenseless) verbs 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>3</sup>.

## 1. 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>4</sup>. Sider continues

<sup>1</sup>Others have also used this equivocation 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, edited by Herbert Feigl and Grover Maxwell (University of Minnesota Press, 1962), Section 3), Quine (*Word and Object* (The MIT Press, 1960), p. 170), Dorato (*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 a tensed/tenseless verb distinction in discussions of time.

<sup>2</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*, edited by 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>3</sup>One might even think there is a distinct ‘is’ of existence in this neighborhood, though it is not often encountered.

<sup>4</sup>“Presentism and Ontological Commitment”, *The Journal of Philosophy* **96** (1999): 325–326.

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 things exist; its temporal analogue is *eternalism*, according to which there *are* [emphasis added] such things as merely past and merely future entities.<sup>5</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 **is**, **exists**, or **is** real? Such a reading risks making one pole of the opposition, eternalism, false in light of the 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. Newton (like Elvis) once **did**, but **does** not now, **exist**. It is possible to deny or doubt this fact. One might for one reason or another be a skeptic with respect to the past or a fallibilist with regard to historical claims, but I mention these views only to set them aside as not relevant to the alleged metaphysical dispute<sup>6</sup>.

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

Suppose, we shift from the tensed to the detensed reading of ‘are’ in the quote from Sider 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,

<sup>5</sup>*Ibid.*, p. 326.

<sup>6</sup>A more sophisticated strategy is not to deny the common facts about Newton that I cited 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. 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 presentism and the common sense view that (1) is literally true by bracketing the other claims about language and propositions. I aim in this paper to examine presentism and eternalism neat and not those views plus a philosophy of language.

rendering *it* (in light of the plain facts I cited above) obviously false. Again, we have not found a suitable way to express these views.

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>7</sup>. Perhaps, one should take the idea that this verb is timeless quite literally and suppose that entities **ARE** simply not in time at all. On this *narrow* or 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, then, that 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>8</sup>. On this understanding of tenseless verbs, the claims 'Isaac Newton **EXISTS** in 1666' and 'Isaac Newton **EXISTS**' are well-formed<sup>9</sup>.

This *broad* tenseless verb is *prima facie* distinct from the detensed verb, since the latter applies *only* to temporal entities. The broad tenseless verb in contrast 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 verbs. For instance, one might require that tenseless verbs be non-indexical with respect to time, to use a term introduced (as far I am aware) by Philip Percival<sup>10</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

<sup>7</sup>If there are only two senses or shades of the copula, the tensed and the detensed versions sketched above, then my negative thesis has just been established. Refusing to explore the possibilities for an additional tenseless sense would limit arbitrarily the tools one might use to try to fashion a traditional presentism/eternalism distinction.

<sup>8</sup>Following Mellor in *Real Time II*, Chapter 7, Section 3.

<sup>9</sup>Since verbs are placeless, we have no trouble in recognizing that although 'It is windy' is well-formed, we cannot assign it a truth-value until we know of what place it is being asserted. Similarly, if the verb is genuinely tenseless in the sense indicated, then in some cases, like 'Socrates **SITS**', we cannot assign it a truth-value until we know of what time it is being asserted. Mathematical propositions, on the other hand, do not need this temporal specification.

<sup>10</sup>In "A Presentist's Refutation of Mellor's McTaggart," which appeared in *Time, Reality, and Experience*, edited by Craig Callender (Cambridge University Press, 2002), p. 101.

location (in contrast to the truth conditions of tokens of sentences containing a tensed verb)<sup>11</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 as well, else we import covertly features of the tensed verb into a context from which they are overtly 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 EXIST**, else this broad tenseless verb risks becoming empty<sup>12</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<sup>13</sup>, however, it must *now* be true to affirm

(2) Isaac Newton **EXISTS**,

although of course it is now false to claim

(3) Isaac Newton **exists**.

There may be much about tenseless verbs that is obscure, but it does seem clear that if the (broad) tenseless verb is as I have characterized it, there are interesting philosophical payoffs. First, presentists and eternalists as such cannot now differ with respect to the truth of (2) without differing about an obvious fact, since we have agreed that Isaac Newton was alive during his *annus mirabilis*, 1666. Furthermore, consider the following sentence as one on which presentism and eternalism might be supposed to differ:

(4) Everything that **EXISTS** exists.

As long as one can instantiate the quantifier in the universally quantified conditional (4) with Isaac Newton, then the truth of (2) and the falsity of (3) renders (4) false. Anyone, whether presentist or eternalist, who understands the tenseless verb in the way I have described and who allows instantiation of the

<sup>11</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, e.g., the present tense verb is thought of as having an implicit indexical 'now') have a context-sensitive character.

<sup>12</sup>Looking ahead to sentence (4), without this minimal commitment presentists would not be able to claim that all present entities **EXIST**, slimming their ontology to perhaps some proper subset of present entities.

<sup>13</sup>If the broad tenseless verb is *not* non-indexical with respect to time, then it is difficult to distinguish it from the ordinary (present) tensed verb.

universal quantifier with Newton must agree that (4) is false<sup>14</sup>. If one understands tenseless verbs in some other way that yields a different result, one is obliged to present, to describe in detail, this alternative<sup>15</sup>.

We have now examined the three most promising ways of construing verbs without finding a satisfactory distinction between presentism and eternalism<sup>16</sup>, but there seems to be more complexity to contemporary attempts to make the distinction than I have so far acknowledged. I will argue that this apparent additional complexity serves merely to camouflage rather than remedy the problems that I have just indicated. Formal language is introduced that directs one's attention away from the linguistic sleight-of-hand (or confusion) that occurs under its cover.

## 2. Quantifiers or tense operators?

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>17</sup>, whereas “realism about unactualized possibles [i.e. possibilism] is exactly the thesis that there are more things than actually exist”<sup>18</sup>. Since it is claimed that time is like modality<sup>19</sup>, it is claimed that an analogous distinction can be made between presentism and eternalism.

<sup>14</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 presentists will agree that (4) is true. Questions about the ranges of quantifiers will be addressed below.

<sup>15</sup>One ought to be able to say, for example, whether such a verb is non-indexical with respect to time and, if not, how it differs from the usual tensed verb.

<sup>16</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" in *Oxford Studies in Metaphysics*, Volume 1, edited by D. Zimmerman (Oxford University Press, 2004), 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 but in ways I do not find convincing.

<sup>17</sup>Michael Loux's introduction to *The Possible and the Actual* (Cornell University Press, 1979), p. 48.

<sup>18</sup>David Lewis in *Counterfactuals* (Basil Blackwell, 1973), p. 86.

<sup>19</sup>Section 3.7 of Markosian's "A Defense of Presentism" for an extended defense of this claim. For an argument that the analogy fails, see Ulrich Meyer's "The Presentist's Dilemma" in *Philosophical Studies* 122 (2005): 213–224.

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>20</sup>. This analogy too has been fruitful (in analog computing), yet mass is quite different from charge and each obeys different laws.

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 possibilities. 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 invocation of unrestricted quantification in this literature<sup>21</sup>, there is good reason for doubting its utility in the present context. 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**), if the set **D** is to capture the idea of unrestricted quantification, it should be the set that contains everything — everything, that is, that exists. But in what sense is 'exists' being used in the last sentence? One has choices, I have shown, but once a choice is made and **D** is specified unambiguously, the remaining questions are typically not philosophical questions<sup>22</sup>. Contra Davidson, my claim is not that the notion of unrestricted quantification cannot be understood, but that once it is understood — once it is specified

<sup>20</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>21</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>22</sup>For instance, if the sense is 'exists', then there may be a question whether or not ivory-billed woodpeckers **exist**, but that is not a philosophical question. It is true that in the tenseless sense, there are philosophical questions about what sets **EXIST**, but this is not the sort of question at issue here.

unambiguously — the standard way of trying to distinguish presentism from eternalism evaporates<sup>23</sup>.

Since the ‘exists’ that occurs in the presentism/eternalism debates is connected (as noted above) to the notion ‘is real’, one should also 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>24</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 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>25</sup>. We need not emulate Austin by trying to uncover all the trickiness of ‘exist’. What we need to see is that, as another dimension 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 (i.e., 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>26</sup>, but I suggest that always indicating the proper contrast class will provide us with enough boats to allow them to sail separately.

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

<sup>23</sup>Sider (in his *Four-Dimensionalism* (Oxford University Press, 2001), pp. xvi and pp. 15–17 especially) *assumes* that the notion of an unrestricted quantifier is well-defined. Richard Cartwright (“Speaking of Everything” in *Noûs* 20 (1994): 1–20) vigorously defends the view that “any objects there are can simultaneously be the values of the variables of a first-order language.” (This quote is from page 2 of that paper.) All involved in the presentist/eternalist debate should, however, bear in mind Cartwright’s warning: “When we talk of the ontological commitments of a theory, we are in uncertain territory. It nonetheless seems clear that if it is said that such-and-such objects are the values of the variables of a first-order language, nothing — or next to nothing — is thereby implied as to the ontological commitments of theories expressible in the language” (p. 6).

<sup>24</sup>Austin, J. L., *Sense and Sensibilia* (Oxford, 1962), p. 70.

<sup>25</sup>*Sense and Sensibilia*, p. 68.

<sup>26</sup>“A Defense of Presentism”, Section 3.7.

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>27</sup>. And in fact the “loosed” quantifier of the presentist, as I understand Davidson’s characterization of it above, ranges over what **Exists** but not over possibilities, abstract entities, or fictional entities.

It will be useful, though, to waive this general argument for a moment and see what can be done by way of another approach to 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 logic know. The material conditional in classical propositional logic roughly corresponds to one use of ‘If ... , then ... ’ but not to others. So, similarly, for the existential quantifier and ‘exist’<sup>28</sup>.

How might we then understand “loosed” or unrestricted quantification? We can get some idea of the intended domain **D** for an unrestricted quantifier from David 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>29</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>30</sup>

<sup>27</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>28</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 meanings. 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>29</sup>*Counterfactuals*, p. 86.

<sup>30</sup>*On the Plurality of Worlds* (Basil Blackwell, 1986), p. 3.

Lewis' 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>31</sup>

If this term ('exists *simpliciter*') is invented by Lewis who is explaining how it is to be understood, then, I claim, it cannot be used to make a non-trivial distinction between presentism and eternalism. My point can be made most clearly by considering the arguments in a recent paper by Hestevold and Carter<sup>32</sup>. 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> (i.e., 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.

<sup>31</sup>*Ibid.*, p. 1.

<sup>32</sup>H. Scott Hestevold and William R. Carter's "On Presentism, Endurance, and Change" in *Canadian Journal of Philosophy* 32 (2002): 511–542.

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

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 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 Proposition (4) above 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 (1) distinct from the present tense '**exist**', the detensed '**Exist**', and both the narrow and broad senses of the tenseless '**EXIST**' described above and (2) can be used to make a significant 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 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:

(5) 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, like presentists, need not deny (5).

But in addition to (5) eternalists (and eternalists only, presumably) supposedly *can* say

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

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 (6)? If the 'is' is present tense, certainly presentists will deny it, but then I see *no reason* why eternalists should

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

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

affirm (6) understood in this way, despite Sider's claim. There need be nothing existing now that was identical to Newton. If you concoct some mereological tale in which (e.g.) presently existing but scattered atoms of Newton's body can be said to have been Newton, then you have imagined a situation in which presentists would be constrained to join eternalists in affirming (6).

If the 'is' in (6) is the detensed verb, then eternalists should certainly affirm (6), 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 (6) so understood ill-formed.

I believe that we have now exhausted the possibilities for making the presentism/eternalism distinction in the usual way, though superficially different variations on these basic themes may well turn up. One might then conclude that the issue is an empty one, but I shall not. What I shall do is look at the distinction in a new and (I hope) illuminating way<sup>36</sup>.

### 3. Presentism and eternalism

After these negative arguments, I would like to take two positive steps toward 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 space-time structure that which is implicit in common sense or classical physics — say Galilean space-time,  $\mathbf{G}$ <sup>37</sup>. The present is a particular set of simultaneous events in  $\mathbf{G}$ , the ones occurring now<sup>38</sup>.

<sup>36</sup>In addition to the paper by Ulrich Meyer cited above in footnote 19, I have recently discovered a third paper arguing at length for the triviality of the usual way of construing the presentism/eternalism debate, Lawrence Lombard's "Time for a Change: A Polemic Against the Presentism/Eternalism Debate" forthcoming in J. Keim Campbell, M. O'Rourke, and H. Silverstein (Eds.), *Time and Identity: Topics in Contemporary Philosophy*, Volume 6, (Cambridge, MA: The MIT Press). Neither of these admirable papers proposes a positive reconstruction of the debate along the lines to be indicated in Section 3.

<sup>37</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 space-time*.

<sup>38</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 opposed to regarding them as atemporal or 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?)

At this point philosophers divide into two camps. One camp is willing to follow modern physics in thinking that, no matter what we do not know yet about space-time, we have abundant evidence that the space-time of our universe is not Galilean space-time. Such philosophers are deprived of a notion of observer-independent simultaneity and hence the familiar presence of common sense.

Philosophers in the second camp resort one way or another to an instrumentalist interpretation of relativistic space-time 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 our most well-confirmed theories rather than import them into. 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 space-time 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 toward my second point, let me try to state presentism and eternalism assuming provisionally Galilean space-time as background space-time structure<sup>39</sup>. An adequate characterization of presentism in classical space-time 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.<sup>40</sup>

CP5 An event  $e$  **exists** iff it **occurs**.

Eternalists would replace CP5 with

CE5 An event  $e$  **Exists** iff  $e \in G$ .<sup>41</sup>

<sup>39</sup>Ultimately this assumption must be abandoned in light of the evidence supporting the special and general theories of relativity. Ultimately then, classical presentism and classical eternalism, insofar as *both* are committed to CP1–CP4, must also be abandoned. What analogous or successor metaphysical positions can be defined in, say, Minkowski space-time is a question for another paper, but my views are congruent with ideas expressed in the papers of Richard Arthur and Dennis Dieks in this volume.

<sup>40</sup>Note that CP4 is not, strictly speaking, necessary for the characterization of presentism. It describes the passage of time and presupposes an oriented manifold.

<sup>41</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 compatible. 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 space-time. 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>42</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>43</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>44</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 tempted to wonder whether there is a way to have both. I believe the answer is *yes*, but I am not able to give a complete 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>45</sup>. Or one might see it as a step toward what Abner Shimony calls *closing the circle*.

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<sup>42</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>43</sup>My note. Once one abandons classical space-time structure, then it is *not* true that every pair of distinct “points of time” stand in a relation of temporal precedence. In Minkowski space-time, there are pairs that stand in such a relation only relative to a choice of inertial frame.

<sup>44</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., Volume LXIX, London, 1969, pp. 239–258.

<sup>45</sup>See his “Philosophy and the Scientific Image of Man” in *Science, Perception, and Reality* (The Humanities Press, 1963), pp. 1–40.

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>46</sup>

I believe that philosophy of time should aim at a coherent naturalistic picture of the experiencing subject with its felt time in an experienced universe with its spatiotemporal structure. If this view is correct, then the victory of either side in the dialectic described in Section 1 of this paper will result in a one-sided and shallow account of time.

This view is not unprecedented. J. Robert Oppenheimer 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>47</sup>. Oppenheimer’s view was motivated by the phenomenon of “complementarity” in quantum mechanics, the impossibility of simultaneous measurement of certain pairs of observables in one experimental set-up, whereas my view is motivated by considering the peculiarities of time and the sorts of naturalism mentioned in the previous paragraphs. So there is at least a difference of source and aim, if not content, here.

General differences, like those between those who think that presentism and eternalism contradict rather than complement each other, 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 two important arguments. The first is Michael Dummett’s version of McTaggart’s “proof” that time is unreal<sup>48</sup>. Dummett, after examining some of the more usual ways of construing McTaggart, supposes that McTaggart’s argument shows that “reality must be something of which there exists in principle a complete description” (p. 503). If reality is temporal, then Dummett takes McTaggart to require (a) that complete descriptions of reality are temporally neutral or remain the same through time, but yet (b) that complete descriptions of reality must contain temporally token-reflexive sentences like “The event M is happening”<sup>49</sup>.

<sup>46</sup>In 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>47</sup>*Science and the Common Understanding* (Simon & Schuster, New York; 1953, 1954), p. 69.

<sup>48</sup>“A Defense of McTaggart’s Proof of the Unreality of Time” *The Philosophical Review* 69(4) (October, 1960): 497–504.

<sup>49</sup>While Dummett does not explicitly state (a), he objects to the existence of a complete description of reality by pointing out that, if it is temporal, “There would be one, as it were, maximal description of reality in which the statement ‘The event M is happening’ figured, others which contained the statement ‘The event M happened,’ and yet others which contained ‘The event M is going to happen.’” Some principle in the neighborhood of (a) must underlie this remark in order for it to be an objection to the existence of a complete description of reality.

But (a) and (b) on the face of it make contradictory demands on the notion of a complete description of reality. The requirement that a complete description of space contain the token-reflexive sentence “Object M is here” is not compelling, yet it is the dual for space of the demand that Dummett’s McTaggart makes for time. It is my hypothesis that this (unreasonable) demand is made because it appeared that, short of this kind of complete description, one was forced to choose between the partial descriptions of the Eternalist, which leaves out such facts as “Event M is happening now,” and that of the Presentist, which seems to leave out all the other facts about events not simultaneous with M<sup>50</sup>. If, as I have argued, these two perspectives are not opposed but complementary, then one can conjure a description of a temporal reality from a fusion of the two views that is consistent and not obviously incomplete.

My second example, 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>51</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 space-time 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 resources, may be required for complete answers to these questions, but we cannot make do with less.

<sup>50</sup>Relativistic complications will have to be dealt with eventually, but need not be in the context of this argument.

<sup>51</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).

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