

*Time and Identity: Topics in Contemporary Philosophy, Vol. 6*, Michael O'Rourke, Joseph Campbell, and Harry Silverstein, eds. (Cambridge MA: MIT Press, 2009).

## **Temporal Reality**

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Nonphilosophers, if they think of philosophy at all, wonder why people work in metaphysics. After all, metaphysics, as Auden once said of poetry, makes nothing happen.<sup>1</sup> Yet some very intelligent people are driven to spend their lives exploring metaphysical theses. Part of what motivates metaphysicians is the appeal of grizzly puzzles (like the paradox of the heap or the puzzle of the ship of Theseus). But the main reason to work in metaphysics, for me at least, is to understand the shared world that we all encounter and interact with. And the shared world that we all encounter includes us self-conscious beings and our experience. The world that we inhabit is unavoidably a temporal world: the signing of the Declaration of Independence is later than the Lisbon earthquake; the Cold War is in the past; your death is in the future. There is no getting away from time.

The ontology of time is currently dominated by two theories: Presentism, according to which “only currently existing objects are real,”<sup>2</sup> and Eternalism, according to which “past and future objects and times are just as real as currently existing ones.”<sup>3</sup> In my opinion, neither Presentism nor Eternalism yields a satisfactory ontology of time. Presentism seems both implausible on its face and in conflict with the Special Theory of Relativity, and Eternalism gives us no handle on time as universally experienced in terms of an ongoing now. (There is a third theory, the Growing Block Universe, according to which the past is real but the future is not; but it also conflicts with the Special Theory of Relativity.<sup>4</sup>) So, I shall by-pass these theories for now and return to them later.

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<sup>1</sup> W.H. Auden, “In Memory of W.B. Yeats.”

<sup>2</sup> Theodore Sider, *Four-Dimensionalism: An Ontology of Persistence and Time* (Oxford: Clarendon Press, 2001): 11.

<sup>3</sup> Sider, *Four-Dimensionalism*, p. 11. See also Thomas Crisp, who characterizes Eternalism as “the view that our most inclusive domain of quantification includes past, present and future entities.” (in “Defining Presentism,” *Oxford Studies in Metaphysics*, Dean Zimmerman, ed. (Oxford: Clarendon Press, 2004): 15-20. Quote is on p. 19.); and Ned Markosian, “In Defense of Presentism,” *Oxford Studies in Metaphysics*, Vol. 1, Dean W. Zimmerman, ed. (Oxford: Clarendon Press, 2004): 47-82.

This paper has two parts. Part I aims to develop a way to understand time that is adequate both to physics and to human experience. It begins with McTaggart's framework of the A-series and the B-series—the framework that underlies both presentism and eternalism.<sup>5</sup> I shall set out a theory (that I call 'the BA theory') that shows how the A- and B-series are related without reducing either to the other. Then, I shall draw out some metaphysical implications of the view. Part II is a discussion of time and existence; more particularly, it is a discussion of the relation between the temporal world and the nontemporal domain of the unrestricted existential quantifier. I shall argue that the world—though not the domain of the unrestricted existential quantifier—is ontologically different at different times.

## I

### The A-Series and the B-Series

There are two distinct ways in which we conceive of time: in a "tensed" way, in terms of past, present, and future ("You will be dead in 60 years," "It's now 4:00." "The Earth is millions of years old," "The play has just started") and in a "tenseless" way, in terms of clock times ("The play starts at 8 pm") and relations of succession and simultaneity ("The sinking of the Titanic is earlier than the beginning of WWI.") McTaggart named these two ways of temporally ordering events the 'A-series' and the 'B-series,' respectively.<sup>6</sup>

Events change with respect to their A-properties (pastness, presentness, futurity). For example, the death of Queen Anne was once in the future, then it was present, then past. So, there are really many different A-series, not just one. By contrast, events do not change with respect to their B-relations (earlier than, simultaneous with, later than). For example, if the signing of the Declaration of Independence is later than the Lisbon earthquake, then the signing of the Declaration of Independence is always later than the Lisbon earthquake. The term

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<sup>4</sup> See Michael Tooley, *Time, Tense and Causation* (Oxford: Clarendon Press, 1997): Ch. 11, suggests modifying the Special Theory of Relativity in a way that entails absolute simultaneity while maintaining consistency with experimental results. See also C.D. Broad, *Scientific Thought* (London: Routledge and Kegan Paul, 1923).

<sup>5</sup> Michael Rea notes that we cannot equate the A-theory and Presentism, nor the B-theory and Eternalism. See Michael C. Rea, "Four-Dimensionalism," in *The Oxford Handbook of Metaphysics*, Michael J. Loux and Dean W. Zimmerman, eds. (Oxford: Oxford University Press, 2003): 246-280. Nevertheless, Eternalism is a B-theory, and Presentism is an A-theory, albeit a truncated one that singles out only the present as real.

<sup>6</sup> JME McTaggart, "Time," from *The Nature of Existence*, Vol. 2 (Cambridge UP, 1927, Book V, Ch. 33, in *The Philosophy of Time*, ed Richard Gale (London: Macmillan, 1968): 86-97. I take 'earlier than' and 'later than' to denote temporal relations; hence, there is no question that the B-series is a temporal series.

‘tenseless’ refers to the fact that B-relations between events do not change over time: once “earlier than”, always “earlier than”.

Although the expressions ‘past,’ ‘present’ and ‘future’ are characteristic of the A-series, those expressions may be used to designate B-series relations. For example, ‘in the past’ is an A-series term only if it’s used with a shifting reference—as in ‘The McCarthy era is in the past,’ where ‘in the past’ is relative to now. If ‘past’ is used relationally—as in ‘The McCarthy era is in the past in 2005,’ ‘past’ has nothing to do with the A-series. ‘The past at t’ is a B-series term equivalent to ‘earlier than t,’ a paradigmatically B-series expression. Similarly, for ‘in the future.’ For example, ‘in the future’ is an A-series expression in “In the future, call me before 9 o’clock,” where ‘in the future’ means in the future relative to now. But ‘in the future’ is a B-series expression in ‘In August 1939, the beginning of WWII was in the future’ where ‘in the future’ means ‘later than 1939’. ‘In the future in 1939’ is a B-series expression that applies to the same times (any time later than 1939) no matter when it is used. Parallel remarks apply to ‘now at t’ (B-series) and to ‘now’ (as in ‘I’m ready to adjourn the meeting now’—A-series). So, the expressions typical of the A-series actually presuppose the A-series only if they are used in ways that have different referents on different occasions of their use. The definitive difference between the A- and B-series is this: A-properties are transient, and B-relations are not.

Verb tenses, as well as terms like ‘past’, ‘present’, and ‘future’, are associated with the A-series. We report facts ordered by the A-series by use of tensed verbs and copulas: ‘He will not be going home,’ ‘That happened 6 weeks ago,’ ‘They’re off!’ yelled by the announcer at a horse race. A-sentences (as I’ll call them) are true on some occasions of their utterance, but not others. By contrast, B-sentences—e.g., ‘In 2005, Tony Blair (tenselessly) is Prime Minister of England’—is true (if true at all) on all occasions of its utterance. Unlike the tensed ‘is’ of the A-series that contrasts with ‘was’ and ‘will be’, the ‘is’ in B-sentences should be understood tenselessly.

Let me pause for a comment on Eternalism: Eternalism is often characterized as I noted at the beginning—as the view that past, present and future times and objects are equally real.<sup>7</sup>

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<sup>7</sup> See note 2. The term ‘Eternalism’ seems to me to be a misnomer for any theory of time: According to a B-theory of time, temporal objects exist tenselessly. Something that exists eternally—e.g., God or the square root of 2 or the set of possible worlds—exists “outside” of time altogether. (E.g., to say that God exists eternally is to *deny* that God is in time; the term ‘semipeternal’ is used to mean that God exists at all times.)

That characterization is highly misleading for a B-theory. The B-series, which is the basis for Eternalism, makes no appeal to past, present or future at all: ‘Past,’ ‘present’ and ‘future’ are A-series terms. (As I just pointed out, all that can be countenanced by the B-series is ‘past at t’, ‘present at t’ and ‘future at t’; but these designations are eliminable in favor of B-series terms ‘earlier than t’, ‘simultaneous at t’, and ‘later than t’.) Past, present and future—along with the ongoing now—are irrelevant to the B-series. From the perspective of the B-series, nothing is really past, present or future—just past at t, present at t, or future at t.<sup>8</sup> Inasmuch as Eternalism calls into question the referents of A-series words, using ostensibly A-language to characterize Eternalism leads to confusion.

It is tempting to think that we can dispense with either the A-series or the B-series in favor of the other. On the contrary, I am convinced that we require both the A-series and the B-series to understand all the temporal facts. Neither the A- nor the B-series can be eliminated in favor of the other.

Here are three reasons to think that the B-series is not dispensable in favor of the A-series: (1) Prima facie, the A-series is incomplete as an account of time: we need the relations ‘earlier than,’ ‘later than’ and ‘simultaneous with,’ in addition to ‘past,’ ‘present’ and ‘future’ to describe familiar temporal facts—e.g., causes are typically earlier than their effects. Indeed, the natural way to understand the past is as earlier than now, and the natural way to understand the future is as later than now. (2) Although the B-series is required for physics, the A-series is never appealed to in theories of physics. (Time’s having a direction depends on physical asymmetries, like the increase of entropy; the directionality of time in no way implicates the A-series with its ongoing now.) If one is at all a realist about physics, then one will take the B-series to be essential for temporal reality. (3) Although I cannot discuss it here, I believe that

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<sup>8</sup> It is also wrong to think that the B-series implies fatalism. As J.J.C. Smart, a four-dimensionalist advocate of the B-series (without the A-series) observed, The B-series “is compatible both with determinism and with indeterminism, i.e., both with the view that earlier time slices of the universe are determinately related by laws of nature to later time slices and with the view that they are not so related.” J.J.C. Smart, *Philosophy and Scientific Realism* (London: Routledge and Kegan Paul, 1963): 142. For a full discussion of the matter of determinism and indeterminism with respect to the A-series, see Adolf Grünbaum, “The Status of Temporal Becoming,” *Modern Science and Zeno’s Paradoxes* (London: George Allen and Unwin Ltd, 1968): 7-36, especially pp. 28-36.

attempts to ground the B-series in the A-series have failed.<sup>9</sup> So, I do not believe that the B-series can be eliminated or reduced to the A-series.

Nor is the A-series dispensable in favor of the B-series. Again, there are three reasons: (1) The B-series without the A-series leaves out the paradigmatic temporal properties of past, present and future altogether, along with the ongoing nows that order our experience. (2) There are many temporal facts that the B-series without the A-series cannot recognize—e.g., that this is the 21<sup>st</sup> century or that social services in the US used to be more secure than they are now. The B-series offers no way for the doctor to tell you that you have less than a year to live, or for you to assure the school board that the Earth is millions of years old now. (And your having less than a year to live and the Earth's being millions of years old now are by no means "subjective" or a product of psychological attitudes.) (3) The A-series is required for the occurrence of many kinds of ordinary phenomena—for making and executing plans, for regret, for making sense of ourselves and the world. A-series facts are explananda that need A-series explanations. Why are you so sad today? Because someone close to you died last night. (Being sad at  $t$  because someone died at  $t-1$  is not the same at all as being sad today; being sad today because someone died last night has the sting of grief that the tenseless fact of being sad at  $t$  because someone died at  $t-1$  just does not have.) So, I conclude that we cannot just eliminate the A-series in favor of the B-series.

Before setting out a theory of temporal reality that integrates the B- and A-series, let me motivate the need for a metaphysical theory. What's the point of a metaphysical (as opposed to a merely semantic) approach to the A-series? After all, David Kaplan and others have shown how to treat indexical sentences containing 'now', and, it may be thought, no more need be said.<sup>10</sup> There is nothing special about the present: "Now" is just a word that applies to every time  $t$ , at that time  $t$ .<sup>11</sup>

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<sup>9</sup> E.g., McTaggart's attempt to define 'earlier than' in terms of A-properties is circular. See Richard Gale, *The Language of Time* (New York: Routledge and Kegan Paul, 1968): 90. More recently, L. Nathan Oaklander has subjected William Lane Craig's version of A-time—Presentism—to a convincing critique. L. Nathan Oaklander, "Presentism: A Critique" in *Real Metaphysics*, Hallvard Lillehammer and Gonzalo Rodriguez-Pereya, eds. (London: Routledge, 2003): 196-211.

<sup>10</sup> David Kaplan, "Demonstratives," in *Themes from Kaplan*, J. Almog, J. Perry, H. Wettstein, editors, (New York: Oxford University Press, 1989): 481-614.

<sup>11</sup> Some philosophers speak of the reduction of the tenses by B-language. E.g., Sider, p. 20. But what is meant by 'reduction of the tenses' is that there are tenseless truth conditions for tensed tokens: e.g., 'S is now F' uttered at  $t$  is true just in case S is F at  $t$ . For example, after Kennedy was assassinated, a doctor said, "It is too late to help him; he has died." We can supply tenseless truth conditions for an utterance of "It is too late to help him" at

Although such indexical theories may be useful in semantics, metaphysicians should not stop with them. There is information that indexical theories cannot account for—e.g., facts about what time it is now and which person is you and which world you live in. It seems a rather significant fact that it is now 4:00 and not midnight, or that I am LB and not George Washington, or that this is the 21<sup>st</sup> century and not the 18<sup>th</sup>. These are temporal facts that one may be right or wrong about. Those who accord no metaphysical import to the A-series will point out that the only propositions involved here (on the standard semantic treatment) are B-series propositions. I reply: The propositions expressed by “This is the 21<sup>st</sup> century” and “I am LB” and “it is now 4:00,” according to the standard treatment, are tautologies: “The 21<sup>st</sup> century is the 21<sup>st</sup> century” and “LB is LB” and “4:00 is 4:00.” Tautologies are trivial. But it is far from trivial that this is the 21<sup>st</sup> century or that I am LB.<sup>12</sup> I can only conclude that nonindexical propositions as do not yield a complete account of reality.

Moreover, indexical theories of the language of the A-series are mute in the face of the transiency of experience, the ineluctable ordering of our lives in terms of an ongoing now. Note the dissimilarity between ‘here’ and ‘now’: The reference of ‘now’ shifts inexorably. Your next utterance of ‘now’ will refer to a different time from your preceding utterance of ‘now’. But your next utterance of ‘here’ will not refer to a different place from your preceding utterance of ‘here’ unless you have moved, and you may move in any direction. There is no spatial analogue of temporal becoming—the property by which, no matter what we do, events recede away from us into the past. Our understanding of experience in terms of an ongoing now—an understanding that is universal—is not fully captured by nonindexical language and a metaphysical theory is in order.

### A Theory of Time

As I mentioned, I’ll call my proposed view ‘the BA theory of time.’ My aim is to take the B-series as basic, but to jack up the A-series so that it too reveals an aspect of the nature of time. According to the BA theory, time has two irreducible aspects: one that depends on there

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time *t* concerning an event (the death of Kennedy) that tenselessly takes place earlier than *t*. However, those tenseless truth conditions cannot convey the tensed information that it is too late to help him. As I interpret the important papers of John Perry and others, the existence of tenseless truth conditions does not signal that indexicals and tensed language can be dispensed with. See John Perry, “The Problem of the Essential Indexical,” *Noûs* 13 (1979): 3-21.

<sup>12</sup>

I discussed these matters at length in “Underprivileged Access,” *Noûs* 16 (1982): 227-241.

being self-conscious entities (the aspect of the A-series, the ongoing now) and one that does not depend on self-conscious entities (the aspect of the B-series, simultaneity and succession). The BA theory will show how these two aspects are related.

(I realize that some philosophers take it to be a metaphysical mistake to claim that any aspect of reality depends on there being self-conscious entities. The claim looks like a mistake only on an assumption that I do not share—namely, the assumption that what depends on us has no ontological significance. I'll return to point later, but now let's see how the B-series and the A-series fit together.)

In the absence of self-conscious beings, events occur (tenselessly) at various times, and some events are (tenselessly) later than others.<sup>13</sup> But there is no ongoing now. Given that the B-series makes no appeal to what is occurring now, we must ask: In virtue of what does an event occur now, in the present?<sup>14</sup> Modifying the view of Adolf Grünbaum, I say that an event's occurring now depends on someone's being judgmentally aware of it now.<sup>15</sup> (Judgmental awareness is "awareness that:" if you are aware that you are feeling something soft, then you are judgmentally aware of feeling something soft.) Consider, for example, a sudden snap of my fingers. The following are sufficient for your hearing the finger snap's occurring now:

- (1) You hear the snap.
- (2) You are now judgmentally aware of hearing something.
- (3) Your judgmental awareness is simultaneous with your hearing the snap.

Because your hearing the snap is (nearly) simultaneous with the snap, the snap also occurs now. The finger snap occurs now in virtue of someone's being judgmentally aware (now) of hearing something, together with the simultaneity of the judgmental awareness with hearing the snap. You need know nothing about the clock time of the snap. If the snap is unperceived,

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<sup>13</sup> The locution 'at t' is neutral between an absolute and a relational theory of time. Relationalists like Grünbaum freely use 'at t'. As Grünbaum observed, An event occurs "in a network of relations of earlier and later and thus can be said to occur 'at a certain time t.' Hence to assert tenselessly that an event exists (occurs) is to claim that there is a time or clock reading t with which it coincides." See, "The Status of Temporal Becoming," p. 24.

<sup>14</sup> The following discussion is from my Ph.D. dissertation, *Linguistic and Ontological Aspects of Temporal Becoming* (Vanderbilt University, 1972). At that time, I joined Grünbaum in denigrating what is "mind-dependent." I have since come to my senses.

<sup>15</sup> Grünbaum, "The Status of Temporal Becoming," p. 17. Also see Grünbaum's *Philosophical Problems of Space and Time* (New York: Alfred A. Knopf, 1963), Part II.

then it may still qualify as occurring now if it is simultaneous with some other event that meets the awareness requirements.<sup>16</sup>

There is no conflict between this view and the Special Theory of Relativity. The appeal to simultaneity is local—indeed, initially, it is between mental events of a single person.<sup>17</sup> A physical event qualifies as occurring now only by being perceived (or by being simultaneous with some other physical event that is perceived). Absence of absolute simultaneity does not deprive reality of simultaneity; it only implies that simultaneity is relative to frame. Physics still appeals to relations of ‘earlier than’ and ‘simultaneous with,’—only now these relations on standard views are taken to be relative to inertial frame.<sup>18</sup> Similarly, metaphysics may still use ‘past’, ‘present’ and ‘future’—only now these properties should be taken to be relative to self-conscious beings.

The nowness of judgmental awareness is, I believe, primitive. So, this view is not reductive; indeed, it is circular: What I am judgmentally aware of is now because my judgmental awareness is (primitively) now. I do not think that this circularity is avoidable; I think that it is a mark of an inextricable link between time and self-consciousness. Everything that a self-conscious being is aware of—her own thoughts, her rememberings, what someone else is saying, that she is about to go onstage, that the driveway needs to be shoveled, what have you—everything is always experienced as being present. Indeed, it is constitutive of our conscious lives that they are ordered by the A-series’ ongoing nows.

The BA theory has the virtue of empirical adequacy: it is adequate both to our experience and to the demands of physics. Anything that we self-consciously experience is perforce ordered by an A-series, but the A-series cannot stand alone. The BA theory takes the B-series to be basic—basic, but not exclusive or exhaustive. It is also part of the nature of time that any self-

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<sup>16</sup> I have defended this view in “Temporal Becoming: The Argument From Physics,” *Philosophical Forum* 6 (1974-75): 218-236 and in “On the Mind-Dependence of Temporal Becoming,” *Philosophy and Phenomenological Research* 39 (1979): 341-357.

<sup>17</sup> “In the first instance, it is only an experience (i.e., a mental event) which can ever qualify as occurring now.” Grünbaum, “The Status of Temporal Becoming,” p. 19..

<sup>18</sup> Anja Janernig pointed out that if I’m standing still and you jump, then we are not in the same inertial frame since you are accelerating. But I still experience your jumping as occurring in the present. So, we should loosen the simultaneity requirement between the judgmental awareness and the physical event that occurs now, and speak of near-simultaneity. (Since judgmental awareness is not instantaneous, no judgemental awareness is simultaneous, strictly speaking, with an instantaneous physical event anyway.)

conscious experience has—must have—A-properties. It is because of this feature of time that we can make sense of the old Tennessee preacher who said “Time ain’t as long as it used to be.”

### Metaphysical Implications

Superficially, I may seem to be in league with Grünbaum: Without self-conscious beings, there are no A-series. But there is a huge metaphysical gulf between Grünbaum and me: Grünbaum took his view to show that the A-series has no ontological status, that it is merely “mind-dependent,” with emphasis on the ‘merely’.<sup>19</sup>

In contrast with Grünbaum and many others, I do not take the mind-independent/mind-dependent distinction to be a basis for metaphysics. Metaphysics should concern reality. We self-conscious beings are part of reality, and we contribute to what there is. Much that exists depends—depends ontologically, not just causally—on us: the existence of pianos, cell phones, particle accelerators. If a piece of plastic that is physically indistinguishable from your Mastercard spontaneously coalesced in outer space, it would not be a credit card: Nothing would be a credit card in a world without beings with propositional attitudes and their conventions and legal and financial arrangements. We people contribute not only to material reality, but to temporal reality as well. What we contribute to temporal reality are the A-series: “nowness” is a product of self-consciousness, but no less part of the reality of time for all that.<sup>20</sup>

I can hear an objection: “Time as it is in itself is only the B-series. On the view that you just sketched, the A-series is extrinsic to time, not part of what time is.” To such an objection, I reply that it is a very general and widespread mistake to think that what something is is determined wholly by its intrinsic properties. What makes something a portrait, a credit card or a personal computer (or any other kind of artifact) are relational and intentional properties. Of course, some philosophers think that there are no artifacts; but, then, some philosophers think that there are no material objects at all. As I have said, I am concerned with the world as we

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<sup>19</sup> There is even less similarity between Hugh Mellor and me. According to Hugh Mellor, temporal reality is purely B-series; but we think about it in A-series terms. We need A-series beliefs in order for our actions to be successful. Nevertheless, there are no A-series facts. See Hugh Mellor, “The Time of Our Lives,” lecture delivered on 22 October 1999 in London to the Royal Institute of Philosophy. [www.dspace.cam.ac.uk/bitstream/1810/753/1/TimeLives.html](http://www.dspace.cam.ac.uk/bitstream/1810/753/1/TimeLives.html).

<sup>20</sup> That now is relative to an inertial frame only means that there is no unique now; there is no unique A-series. But this casts no doubt on there being an ongoing now relative to us—just as just as the fact that the truth of an utterance of ‘It’s 4:00 now’ depends on time zone casts no doubt on its really being 4:00.

encounter it, and we encounter it as full of artifacts, and as temporally ordered by ongoing nows—indeed, as saturated with A-series temporality.

Time is not something extraneous to us, or something nontransient (as the B-series alone would have it) that simply causes us to experience the world as transient. Our relation to time is much more intimate than is effect to cause. Contrast time with heat, say. The phenomenon of heat is nothing but the motion of particles; that motion causes our sensations of heat. We can readily imagine living in a world in which there were no sensations of heat; the motions that cause sensations of heat in our world could cause other kinds of sensations or no sensations at all. But time is not like that: We cannot imagine living in a world without the passage of time. We are not just contingently related to time (as we are to heat) as a cause of certain experiences. We are wrapped up in time (indeed, we are carried away by time's wingéd chariot). Passing time is the medium of our lives: To live is to get older, and to get older is for time to pass. There is something about time, not just about us, that makes our experience transient.

So, to say that the A-series requires self-consciousness does not exclude the A-series from being an aspect of time. We might say that, in the absence of self-conscious beings, the A-series are dormant (or merely potential, or latent). It is an important feature of time that it has a disposition toward A-properties, which are manifest only in relation to self-conscious beings. I do not see how to make sense of the world that we encounter without metaphysical appeal to transiency; and the best metaphysical theory of transiency, I believe, is that its passing depends on our self-conscious experience. Now let us tackle the question of the relation between time and existence.

## II

### Time and Existence

As I said at the outset, I do not think that Presentism or Eternalism or the Growing Block Universe view is adequate. So, I want to find a different way to understand the relation between time and existence, between being in time and existing simpliciter. The discussion rightly focuses on the domain of the unrestricted existential quantifier—the domain of the wide open  $\exists$ , not restricted in any way, the most inclusive domain that includes everything that exists.<sup>21</sup> I'll call the domain of the unrestricted existential quantifier 'the Domain', and I'll use 'x is in the Domain' and 'x exists simpliciter' interchangeably. The Domain is simply the collection of all the objects that exist.

My aim is to show that although the Domain is not subject to change (as Eternalists hold), the world is ontologically different at different times (as Presentists hold): the world does not come "ready-made".<sup>22</sup> My strategy is to construe certain objects as essentially existing at times but to construe being in the Domain as nontemporal (in that ' $\exists t(x \text{ is in the domain at } t)$ ' is meaningless). I'll sketch a picture of how the Domain, which is subject to no temporal qualification whatever, can contain objects that exist only in time. There are two distinct ways of existing—in time (like you and me) and not in time (like numbers). To exist simpliciter or to be in the Domain is not to exist in some other way; it is to exist either in time or not in time. I call this the 'Mixed View', because it construes the world to be temporal and the Domain to be nontemporal, and it takes the Domain to depend on what exists in the world at particular times. Let's start with the idea of existing in time.

Existing-at-t is a fundamental mode of existence, irreducible to any other mode of existing. The things that we encounter in the world exist at times. If Socrates, for example, exists at all, he exists at some time. In fact, Socrates exists (or existed—tenses don't matter here) from 470 – 399 BCE and only from 470 – 399 BCE. He came into existence in 470 and (putting aside the possibility of life after death) went out of existence at 399. He is not an eternal or pre-existing object that simply acquired a temporal location at 470. When Socrates began to exist, a completely new entity came into being. Objects like Socrates exist by being in time: They come into existence at some time and cease to exist at some later time. They cannot exist otherwise

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<sup>21</sup> I am agreeing here with Sider that there are meaningful disagreements about what exists. (Sider, "Introduction"). Sider cites Peter van Inwagen, "The Number of Things," *Philosophical Issues 12, Realism and Relativism*, 2002, Ernest Sosa, ed. (Oxford: Blackwell, 2002): 176-196, but van Inwagen makes much stronger claims than the one I am agreeing to here.

<sup>22</sup> This term comes from Sider, who is an eternalist. See, *Four-Dimensionalism*, p. xxii.

than at times. (Although Socrates is essentially in time, it is not essential that he exist from 470 to 399—he might have been executed in 404.) Existence at a time, which may be symbolized by a predicate ‘Ext’, is a property. Existing at some time or other is a property that Socrates has essentially; existing at 400 BCE is a distinct property that Socrates has contingently. Let us call objects (like Socrates) that exist at times ‘temporal objects.’<sup>23</sup>

Now let’s turn to the nontemporality of being in the Domain. To be in the Domain is to be within the scope of the logician’s ‘ $\exists$ ’. What does the Domain include? The Domain includes everything; it is the complete ontology. Since it is the complete ontology, nothing can be added to the Domain and nothing can be taken away from it. “Everything” includes both abstract objects—like times and numbers—for which it is meaningless to say that they exist at a time at all, and concrete objects—like Socrates—that exist at times. However, there are not two senses of ‘exist’.<sup>24</sup> There are, rather, two modes or ways of existing. Some kinds of things—abstract objects like the number nine—are nontemporal and are in the Domain without existing at times. Other kinds of things—finite concrete objects like Socrates—are in the Domain because they exist at times. So, I do not regard existing-at-t (expressed by the two-place predicate ‘Ext’) to be just a matter of temporal location; as I said, existing-at-t is a basic mode of existing. Existing at a time does not contrast with existing simpliciter. Rather existing at a time is one of two ways to exist simpliciter.

In short, the nontemporal Domain is nothing but all the temporal objects (that exist in time) and all the nontemporal objects (that exist but not in time). I am using ‘nontemporal’ for the Domain, about which temporal qualifications make no sense, and ‘nontemporal’ for abstract objects, about which it makes sense to say that there is no time at which they exist. Abstract objects exist simpliciter, but do not exist at a time. The Domain is not itself an object of any sort.

Since the existential quantifier is univocal and since the Domain includes nontemporal objects as well as temporal objects, our English rendering of existential quantification as ‘There

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<sup>23</sup> Temporal objects are concrete particulars, not events. Following Kim, I take events to be objects’ having properties at times; I do not take events to be particulars.

<sup>24</sup> See Gareth B. Matthews, “Senses and Kinds,” *The Journal of Philosophy* 69 (1972): 149-57, and “Dualism and Solecism,” *The Philosophical Review* 80 (1971): 85-95.

exists' is not a present-tense occurrence of 'exists'; rather, 'exists' is nontemporal.<sup>25</sup> We can see the nontemporality of '∃' as follows: For any object in the Domain, whether it is a temporal object or not, it makes no sense to say that there is some time at which it is in the Domain, and it equally makes no sense to say that there is some time at which it is not in the Domain. It makes no sense to say that an object is already in the Domain, or is always in the Domain, or is not yet in the Domain. Temporal qualifications just do not apply to being in the Domain. When I say that the Domain itself is nontemporal, I do not mean that all the objects in the Domain are nontemporal. (Socrates is not nontemporal.) Rather, I mean that for any object in the Domain (whether temporal or nontemporal), its being in the Domain—like 2's being less than 3 or red's being a color—is not in time at all.

Since Socrates is a temporal object, the condition for Socrates' being in the Domain (or his existing simpliciter) is that there is some time t such that he exists at t:

$$\exists x(x=s) \text{ iff } \exists t(Est)$$

So, Socrates is in the Domain (since there's a time at which he exists), but it makes no sense to say that he is in the Domain in 400 BCE or in 2005 CE or at any other time. (This is not to say that Socrates is in the Domain or exists simpliciter even when he doesn't exist. Since it makes no sense to say that there is a time t such that Socrates is in the Domain at t, it makes no sense to say that there is a time t such that: both Socrates is in the Domain at t and Socrates does not exist at t.)

But what is nontemporally expressed by '∃x(x = s)' does implicate time—since the condition of Socrates' being in the Domain is that ∃t(Est). Socrates's being in the Domain of the nontemporal '∃' is not some nontemporal way of existing; rather it is none other than there being a time at which Socrates exists. His existing occurs at some particular time and his existing at that time is what makes the existential generalization true. That is, his existing at 400 BCE, or at any other time between 470 and 399 BCE makes it true that ∃t(Est), and hence makes it true that Socrates is in the Domain. So, Socrates's being in the Domain depends on his existing at some

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<sup>25</sup> As every beginning logic student learns, the logician's '∃' is nontemporal. Why not paraphrase the logician's '∃' as 'there exists in the past, present or future'? (Peter van Inwagen and Patricia Blanchette raised this question.) Not only is the standard reading nontemporal, but also it is possible that there exist numbers in a world without time. In such a world, there is not temporal reading of '∃'. (Marian David supplied the latter answer.)

time, and not vice versa. To put it another way: Socrates is in the Domain *in virtue of the fact that* there is a time at which he exists. Socrates is in the Domain as a (logical) consequence of his existing at some time, not as a precondition of his existing in time.

In short, the relation between a temporal object's existing simpliciter and its existing at a particular time is the relation between an existential generalization and a true instantiation of it. For a temporal object, its existing-at-particular-times is its only mode of existence; a temporal object is in the Domain only in virtue of there being a time at which it exists. Socrates comes into existence at the earliest time  $t$  at which there is a true instance of the existential generalization ' $\exists t(\text{Est})$ '. Different objects come into existence at different times. Therefore, the world—the flesh-and-blood temporal world that includes us in 2005, and included Socrates between 470 and 399 BCE—is ontologically different at different times. So, let us relativize the ontology of the world to time and say:

the ontology of the world at  $t$  = all abstract objects and all objects  $x$  such that  $\text{Ext}_t x$ .

Nevertheless, the Domain of the unrestricted existential quantifier remains nontemporal:

the Domain = all abstract objects and all objects  $x$  such that  $\exists t \text{Ext}_t x$ .

(I am putting aside here the view that there is an eternal being.) The Mixed View accepts this distinction between the nontemporal Domain and the temporal ontology of the world at  $t$ . Since different objects exist at different times, the world exhibits ontological diversity.

Let me sum up the Mixed View, according to which the Domain is nontemporal, but the world exhibits ontological diversity:

1. Objects (both temporal and nontemporal) are in the Domain. 'Being in the Domain' is not subject to temporal qualification of any kind. Some things (like numbers) are nontemporal (they do not exist at times); other things (like Socrates) are essentially temporal (they exist only at times). Socrates exists only from 470 until 399 BCE—the times that satisfy 'Est.' Since  $\exists t(\text{Est})$ , Socrates is in the Domain.

2. The reason that we can quantify over any object at any time is that for a temporal object to be in the Domain is for there to be some time at which it exists.<sup>26</sup>

“Does Socrates exist?” you may ask. --That’s an incomplete question. Socrates is a temporal object, who exists at some times but not at others. (And it makes no sense to say that he exists simpliciter at all times or at any time; to say that Socrates exists simpliciter is to say that  $\exists x(x = s)$ .) We can complete the question, Does Socrates exist? in any of several ways: “Does Socrates exist in 400 BCE?” (yes) “Does Socrates exist in 2005 CE?” (no) “Does Socrates exist now?” (no) “Does Socrates exist simpliciter?” (yes) --This is not to say that Socrates exists in two ways—nontemporally in the Domain and temporally in the world in time. He exists in one way: temporally, in time, in the world, and because of this he—the temporal Socrates—is in the Domain.<sup>27</sup>

3. Existing-at-a-time is a basic mode of existing, the mode we are most familiar with. Satisfaction of the open sentence ‘x exists at t’ is the necessary and sufficient condition for a temporal object to be in the Domain or to exist simpliciter. ‘x exists at t’ has ontological import. It does not merely give a temporal location for something that “already exists” in the Domain; there is no such thing as “already existing” in the Domain.]
4. For temporal objects, existing-at-t is metaphysically prior to being in the Domain in that it is only in virtue of existing at a particular time that a temporal object exists simpliciter or is in the Domain. Socrates is in the Domain only because he existed in time. The Domain is just the collection of objects nontemporal and temporal.
5. Temporal objects—all those that we encounter, those that do not exist perpetually—come into existence at some time t. To say that x comes into existence at t is to

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<sup>26</sup> Am I saying that we can existentially quantify over an object when it does not exist? Yes. We can quantify over any object in the Domain. Existential quantification does not entail that a temporal object exists at the time that it is quantified over; it entails, rather, that it exists at some time or other. (i.e., that it is in the Domain, that it exists simpliciter).

<sup>27</sup> I.e., Socrates’ being in the Domain is a nontemporal fact. Are all nontemporal facts necessary? No. If there had not been a time at which Socrates existed, he would not have been in the domain.

say: 'Ext &  $\sim\exists t'(t' < t \ \& \ \text{Ext}')$ '. If x comes into existence at t, then x did not exist before t. So, there is ontological novelty in the world.

### Ontological Novelty

The account just given of ontological novelty in the world can be extended from the coming-into-existence of new entities to the coming-into-existence of new kinds of entities—I call them 'primary kinds'. Indeed, anyone who believes in the evolution of the universe or in the evolution of biological species must either countenance novel primary kinds or else deny that objects of apparently novel primary kinds (e.g., stars, horses) are real objects. We can understand ontological novelty as the evolution or introduction at some time or other of objects of new primary kinds—e.g., the first multi-celled organisms or Galileo's first telescope. Say that a primary kind K is more complex than a primary kind K' if objects of kind K' can constitute objects of kind K. Then the comparative ontological richness of the world at different times may be understood as follows:

(OR) The world at t' is ontologically richer than the world at t iff there are objects of more complex primary kinds at t' than at t.

A new primary kind (natural or artifactual) is a genuine novelty whose evolution or introduction makes the world ontologically richer. This view, again, allows for ontological novelty in the world, but not in the Domain of the unrestricted existential quantifier, not in the complete ontology.

### Contrasts Between the Mixed View and Others

The Mixed View may at first resemble a Growing-Universe View, but the "growth" is in the world; there is no room for "growth" in the complete ontology. And unlike the Growing-Universe views, the Mixed View does not imply that objects that begin in the future do not exist; it only implies—what is surely right—that they do not exist now.

The Mixed View tries to take what is intuitively right about Eternalism and Presentism, and leave behind what seems wrong with each. Neither Presentism nor Eternalism distinguishes between the ontology of the world at a time and the collection of all the objects that make up the

Domain. According to Presentism, both the Domain and the ontology of the world are relativized to the present and both change over time. According to Eternalism, neither the Domain nor the ontology of the world changes over time. According to the Mixed View, the ontology of the world changes over time, but the Domain does not.<sup>28</sup> So, the Mixed View leaves behind the presentist's constantly changing domain of the unrestricted existential quantifier.

The Mixed View shares with Eternalism the claim that the domain of the unrestricted existential quantifier is fixed; it is not subject to change. Nevertheless, the Mixed View differs from Eternalism in several respects.

First, on the Mixed View, the ontology of the world is in time and is different at different times. On Eternalism, it is not. On the Eternalist view (as I understand it), the ontology of the world at any time is just the collection of objects that make up the Domain.<sup>29</sup>

The second way in which the Mixed View differs from Eternalism concerns the status of temporal existence (expressed by 'x exists at t'). According to the Mixed View, there are two basic ways of existing: temporally and nontemporally. Eternalists (I think) construe all existence, understood ontologically, to be nontemporal: they do not consider existing in time to be a different mode of existence from existing nontemporally. According to the Mixed View, not all existence is nontemporal. For some objects (temporal objects) existence is a matter of existing at some time or other; their being in the Domain depends on existing-at-a-time. I disagree with Ted Sider, an Eternalist, when he says, "'Exists-at' is analogous to the spatial predicate 'is located at', not the logician's '∃'."<sup>30</sup> According to the Mixed View, 'exists at' is intimately connected with the '∃'. Existing-at-t is one of two basic modes of existence.

A corollary is that since Mixed Viewers construe existing-at-t to be a basic mode of existence, the Mixed View takes some (perhaps all) temporal objects to come into existence at times. If an object comes into existence at a time, then there are earlier times at which the object does not exist. Sometimes Eternalists seem to construe 'being in the Domain' to imply the

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<sup>28</sup> Since the Domain is nontemporal (not in time at all), it is meaningless to say that an object is in the Domain only when it exists.

<sup>29</sup> An eternalist may agree that, if he were to accept my definition of the 'ontology of the world at t', he would agree that the ontology of the world changes; however, I think it highly unlikely that he would accept my definition. I admit that this may be merely a semantic difference between the Mixed View and Eternalism.

<sup>30</sup> Sider, p. 59.

following: if  $x$  is in the Domain, then there is no time at which  $x$  is not in the Domain; and hence,  $x$  is in the Domain at all times. And hence, further, if  $x$  ever exists, there is no time that  $x$  fails to exist.<sup>31</sup> If this is what Eternalists hold, then Eternalists (unlike Mixed Viewers) suppose that objects do not come into existence at times.

By contrast to Eternalism, on the Mixed View, it is meaningless to use temporal language to speak of the Domain. It is meaningless to say that  $x$  is in the Domain at all times, or that  $x$  is in the Domain before or after it exists in time: ‘Before’ or ‘after’ make no sense when applied to the Domain. The Domain is just a collection of objects, temporal and nontemporal. An object’s existing at a time implies that the object is a temporal object, and being a temporal object is sufficient for being in the Domain. So, whereas the Mixed View takes objects to come-into-existence at different times, it seems, as I said a moment ago, that Eternalism does not.<sup>32</sup>

The third way in which the Mixed View differs from Eternalism concerns the metaphysical priority of Socrates’ existing-at-a-particular time to Socrates’s being in the Domain. His being in the Domain depends on there being a time at which he exists; and this in turn depends on his existing-at-a-particular time. When Ted Sider says that “the world comes ‘ready-made’ with a single domain  $D$  of objects: the class of all the objects there are,”<sup>33</sup> it sounds as if he is taking the Domain to constrain what exists at particular times. The Mixed View takes the order of priority to be the reverse: What exists in the world at particular times determines what is in the Domain (or rather determines what is in the temporal part of the Domain).

The fourth respect in which the Mixed View differs from Eternalism is that only the Mixed View is compatible with the BA theory of time. Eternalism has no place for an ongoing now in its account of reality. Nor does Eternalism have resources to show how temporal reality, conceived of wholly in terms of the B-series could give rise to the appearance of an ongoing

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<sup>31</sup> There is at least a suggestion that all objects in  $D$  do not begin to exist at some time in Michael Rea’s characterization of Eternalism like this: “Eternalists believe that all past and future objects exist (i.e., there are some past objects, there are some future objects and there neither were nor will be objects that do not exist).” Michael C. Rea, “Four-Dimensionalism,” *The Oxford Handbook of Metaphysics*, Michael J. Loux and Dean W. Zimmerman, eds. (Oxford: Oxford University Press, 2003): 247. (246-280)

<sup>32</sup> A colleague of mine thinks it uncharitable to impute to eternalists the view that objects do not come into existence in time or that they exist at all times. Clear-headed Eternalists, he says, think no such thing. So, I leave this as only a possible difference between the Mixed View and Eternalism.

<sup>33</sup> Sider, *Four-Dimensionalism*, p. xxii.

now, as opposed to successions of simultaneous events. If all there is to time is the B-series, how could our lives be so bound up in the passage of time? On the other hand, the Mixed View is neutral with respect to the BA theory.

The obvious benefit of the BA theory over the pure B-theory is that it allows for temporal distinctions that matter to us. For example, think about your best friend, who, let us suppose for the sake of convenience of pronouns, is a woman. She exists in 2005. That is an important (B-series) fact about her. But equally important is the (A-series) fact that she exists now. She did not die last night—an A-series fact. On the B-theory alone, your friend's existing now has no metaphysical significance whatever; indeed, it is not a different fact from her existing at 4:00 on Sept. 30, 2005. By contrast, the BA theory, when wedded to the Mixed View, gives a metaphysical (not just semantic or “conceptual”) account of things' being in the past, present, and future: being now is a relation between a time and a self-conscious being. Granted, the BA account is in terms of self-conscious beings; but, as I have noted, self-conscious beings are as much a part of reality as rocks and trees. Combining the B- and A-series into a metaphysical account of time further distinguishes the Mixed View from Eternalism.

Whether the Mixed View is a variant of Eternalism or not depends on whether an Eternalist would (1) distinguish two basic ways of existing, temporal and nontemporal; (2) recognize the ontology of the world at *t* as distinct from the Domain; (3) welcome the BA theory of time, and (4) take temporal language to be nonsensical if applied to the Domain.

## Conclusion

I have two main conclusions: In Part I, I argued that both the B-series (that orders time in terms of unchanging relations like ‘earlier than’) and the A-series (that orders time in terms of changing properties like ‘being past’, ‘being present’ and ‘being future’) are needed for an adequate account of time. Neither series is dispensable, and neither by itself is a sufficient account of time: An A-theory cannot stand alone. On a B-theory alone, things just exist at different clock times: nothing moves through time; there is no passage. On the BA-theory,

objects move through time, but their doing so depends on the existence of self-conscious beings. Although the B-series is the more fundamental of the two orderings, it is a deep fact about time that it can be experienced only as transient.

In Part II, I argued that there is no conflict between the commonsense view that the world exhibits ontological novelty and the metaphysical view that the domain of the unrestricted existential quantifier is nontemporal. The world changes ontologically over time as new objects like Socrates and new kinds like dinosaurs come into existence. Nevertheless, the domain of the unrestricted existential quantifier is not subject to change (because it is not temporal at all).

Let me conclude with a brief personal remark about metaphysics. It is very important to me to get on the table an alternative to the dominant metaphysical theories that accord no place in their accounts of reality for things that everyone cares about—not only concrete objects like your car keys, or the *Mona Lisa*, but also commonplace states of affairs like your being employed next year, or your having enough money for retirement. Many philosophers treat such phenomena as if they were just a matter of our concepts. I think on the contrary that they are the stuff of reality, and I want to offer a metaphysics that has room in its ontology for the ordinary things that people value. It is not enough to have familiar sentences turn out to be true under unfamiliar interpretations. I do not want to relegate what really matters to mere concepts or semantics. My aim is to find metaphysical significance in the world as we encounter and interact with it all day every day.<sup>34</sup>

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<sup>34</sup> I am grateful to Edmund Gettier, to Gareth B. Matthews, and to Hilary Kornblith for many profitable conversations on the matters discussed here. An earlier version of this paper was read in my absence at the Inland Northwest Philosophy Conference on Time and Identity at the University of Idaho and Washington State University, March 31-April 2, 2005. I gave a much revised version at Notre Dame University on September 30, 2005. I am grateful to audiences at both venues.