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The Debate about Time: Examining the Evidence from our Ordinary Experience of Time

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A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of Philosophy

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THE DEBATE ABOUT TIME:
EXAMINING THE EVIDENCE FROM OUR
ORDINARY EXPERIENCE OF TIME

(Thesis format: Integrated Article)

by

Melissa MacAULAY

A thesis submitted to the Department of Philosophy
in partial fulfillment of the requirements for the degree of

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at Western University

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Abstract

In this thesis, I examine the metaphysical debate between the A-theory and the B-theory of time, first by elaborating upon its proper characterization, and then by examining the sorts of evidence that are often thought to be germane to it. This debate, as I see it, is about whether or not *time passes* in any objective (observer-independent) sense: the A-theory holds that it does, while the B-theory holds that it does not. I identify two opposing conceptions of time—that of the “time of ordinary experience” on one hand, and that of “scientific time” on the other—and argue that the tension between them is the driving force behind this debate. I then examine two aspects of “evidence” from the time of ordinary experience: the phenomenological experience of time (how time *feels*) and the linguistic experience of time (how we generally *talk about* time). It is often supposed, by both A- and B-theorists alike, that these sorts of evidence lend credence to the A-theory of time, since ordinary experience suggests that time passes. I hope to discredit this presumption, and so challenge the very framework in which this debate is so often carried out. In particular, by closely examining both of these kinds of experience—phenomenological and linguistic—in turn, I hope to provide a partial argument to the effect that the ordinary experience of time as a whole does not favour the A-theory over the B-theory of time. In the case of the phenomenological evidence, this is because the A-theory is just as inconsistent with such evidence as is the B-theory of time; in the case of the linguistic evidence, this is because the B-theory is equally consistent with such evidence as is the A-theory of time, particularly once it is revealed that a certain key assumption is tacitly accepted by both sides of the debate. Because of the popularity of the claim that the ordinary experience of time favours the A-theory, I take this conclusion to be something of a modest defence for the B-theory of time.

Keywords

metaphysics, time, A-theory of time, B-theory of time, temporal passage, phenomenology, language, tense, indexicals, death.

To my parents, Philip and Veronica.

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Introduction

In metaphysics, there are two competing theories of the structure of time.

The first of these theories is perhaps the most widespread among non-philosophers and non-physicists, and is thus what some might call the “folk theory” of time. There are many variants of this theory, but one of its essential features is that there is a moment of time that is truly “the present,” and that all other moments of time belong to the past, or possibly to the future. Another of its essential features is that these moments successively change with respect to these temporal properties—that is, from being future, to being present, and finally, to being past. One popular variant of this theory maintains that although past, present, and future moments are equally real, the property of present-ness “sweeps” across them in the earlier-to-later direction. Thus, if one were to imagine looking at time from a bird’s-eye view, the moment that was currently “now” would be somehow distinguishable from the rest. Another variant of this theory says that only the past and present are real, while the future does not exist. On this view, new moments are continuously popping into existence and adding themselves onto the existing stock of moments, creating an ever-evolving present that serves as the boundary between the past and the non-existent future. A third variant of this theory goes even further, maintaining that only the present moment exists, and that all past and future times are merely a figment of our memory and imagination. On this radical view, the present is ever-changing, with objects and events quickly passing through it in a brief flash of existence.

These are all variations of what philosophers of time refer to as the A-theory of time. They are unified by the common belief that the present is objectively distinguishable from all other times, and that it facilitates some sort of growth or movement in the earlier-to-later direction along the temporal dimension of the universe. Anyone who espouses this theory of time is referred to as an A-theorist. This theory may or may not be espoused in combination with *endurantism*, the view that people and objects move through time, and are always to be found wholly at whichever moment is the present.

The second theory of time, which does not admit of so many variants, is referred to as the B-theory of time. According to this theory, all moments of time are equally real, and none of them can be singled out as objectively “present.” The word “now” is, on this view, analogous to the word “here” in that it is only meaningful relative to some particular perspective. Once again taking a bird’s-eye view of time, and thus removing ourselves from any particular perspective, the B-theory of time maintains that no one moment is distinguishable as “the present,” just as no one location is objectively distinguishable as “here” or “there.” Anyone who espouses this theory of time is referred to as a B-theorist. It follows from this view that present-ness cannot really move from one moment to the next, since present-ness is not an objective feature of reality. This theory of time goes hand-in-hand with a view called *perdurantism*—the view that people and things do not move through time, but are rather extended through time in the same way that they are extended through space. At any moment, then, only part of an object is present, since (in general) there are other parts of it existing in its past and its future.

It is sometimes thought that belief in the B-theory of time ought to lessen the fear and suffering that comes with the prospect of death. B-theorist Albert Einstein, for example, wrote the following words of consolation to the widow of his long-time friend Michele Besso shortly following Besso's death (and, unbeknownst to Einstein, shortly before his own):

Now he has departed from this strange world a little ahead of me. That means nothing. People like us, who believe in physics, know that the distinction between past, present and future is only a stubbornly persistent illusion. (Einstein 1955)

For most of us, these remarks would offer little consolation. Surely, we would say, the distinction between what is past and what is future is—to us, anyway, who are confined to the present—quite real. We might feel that to cite one's past existence as a reason not to mourn his or her present absence—or similarly, to look to the present as a means of accepting our future nonexistence—is to miss the point entirely. In the end, we reason, there will come a time by which we will have been completely dissolved into the universe; no trace of our former selves will remain, nor anyone to look for it. Physicists like Einstein may doubt the reality of “now,” but for us it is a perpetual point of no return that is very real.

But is this attitude regarding death merely a symptom of belief in the A-theory (i.e., the folk theory) of time? Robin le Poidevin (1996) suggests that this theory conditions us to believe that the past and future are in some way less real than the present, and so that once our lives enter the past, “we become, in a literal sense, non-persons.” Adopting the B-theory of time will therefore have a

positive effect on us, insofar as it maintains that all times are equally real, and that there is no observer-independent “present” to pass us by and render us non-persons. In this way, says Le Poidevin, the B-theory entails that “our future non-existence after our deaths should be nothing more to us than our past non-existence before our births” (Le Poidevin 1996, 145). Even if there is a point in the future at which there is little or no evidence of our past existence, the B-theory assures us that our lives are still just as real as they ever have been. Birth and death, then, are simply the temporal limits of our existence, and what exists between those limits is not altered by the mere potential for vantage points on the exterior. Le Poidevin thus declares: “I have nothing to fear, at least in this respect, from the ravages of time” (Le Poidevin 1996, 144).

In this thesis, I identify some distinct strands of argument arising from the axis of the “ordinary experience of time” on one hand, and “scientific time” on the other; in particular, I examine popular viewpoints of this debate which emphasize phenomenological experience and linguistic experience. By examining both of these kinds of experience in turn, I hope to provide a partial argument to the effect that the ordinary experience of time as a whole does not favour the A-theory over the B-theory of time; rather, the ordinary experience of time is equally problematic for both theories. Because of the popularity of the claim that the ordinary experience of time favours the A-theory, I take this conclusion to be something of a modest defence for the B-theory of time.

In chapter 1, I argue for a specific characterization of the metaphysical debate between A-theorists and B-theorists about time. In particular, I argue that the debate hinges on what I call the Passage Question: *Does time pass?* I identify several other questions often asked by philosophers of time, and maintain that certain of these questions, although they may elicit different kinds of

discussion, serve as different ways to pose the Passage Question. Furthermore, I identify some other questions which I take to be tangential or orthogonal to the Passage Question, although these questions are often presented as being characteristic of this debate. Also in this chapter, I outline the distinction between scientific time and the ordinary experience of time, setting the stage for my argument that the evidence from the ordinary experience of time does not—contrary to common thought—lend credence to the A-theory of time.

In chapter 2, I examine the phenomenological evidence that is thought to be germane to this debate, and which makes up the phenomenological element of the ordinary experience of time. I argue that there are two primary elements to our phenomenological experience of time—i.e., *presence* and *passage*. After explaining why presence and passage are both thought to lend credence to the A-theory of time (while posing a serious challenge to the B-theory of time), I argue that the various versions of the A-theory each fail to account for these kinds of “phenomenological data” to the same extent as the B-theory does so. I hope to show that, contrary to popular opinion, the phenomenology of time does not favour the A-theory of time. Once again, this is not to say that experience favours the B-theory, but rather that *neither* theory is able to deal adequately with the phenomenological data.

In chapter 3, I examine the linguistic evidence for the A-theory of time, which is garnered from the ways in which we ordinarily speak (and think) of events in time. I outline the most common form of the language-based argument that A-theorists use to support their metaphysical picture of time, central to which is the thesis that true, tensed sentences cannot be translated into true, tenseless ones without at least some loss of meaning. I argue that, rather than occupy themselves with

attempting to disprove the above thesis, B-theorists ought to reject an assumption that is too often tacitly accepted by all who participate in this debate. Once this tacit assumption is rejected, it becomes clear that the ordinary experience of time does not, in fact, favour the A-theory of time.

My methodological approach to these problems is modest. My aim is not to show that the B-theory is true and the A-theory false; rather, I wish to contribute simply to the progress of this debate by offering what I take to be some important clarifications and insights—in particular, by arguing that the B-theory is not any worse off than the A-theory with respect to the evidence garnered from ordinary experience. In the case of the phenomenological evidence, this is because the A-theory itself does not fit perfectly with our ordinary experience; in the case of the linguistic evidence, this is because such evidence is not in fact incompatible with the B-theory—a fact that becomes clear once the underlying assumptions present in this debate are more closely examined. Along the way, I also hope to shed some light on why anyone—philosopher or otherwise—ought to care about this debate at all.

Works Cited

- Einstein, Albert. “Letter no. 215” (March 1955). *Correspondance, 1903–1955*. Trans. Pierre Speziali. Paris: Hermann, 1972.
- Le Poidevin, Robin. *Arguing for Atheism*. New York: Routledge, 1996.

Chapter 1

1 Characterizing the Debate about Time

Time is an immense philosophical topic. Does time exist independently of the things in it, or does it depend on the temporal relations between things? Does time exist independently of consciousness? Can consciousness exist outside of time? Does time have a beginning or an end? Is time made up of discrete units or is it continuous? Is there a real distinction between the past, present, and future? If so, what is it? Is the past real? What about the future? How long is the present? Does time pass? Am I moving through time or is time moving past me? Am I the same person that I was yesterday? How do things persist over time? How is change possible?

For the purposes of this dissertation, I must limit myself to only some of these concerns. In particular, I focus on the metaphysical debate surrounding the *A-theory* and the *B-theory* of time. This chapter aims to argue that the proper characterization of this debate—itsself an issue of great contention within the literature—is one in which each side represents a different answer, either “yes” or “no,” to what I call the Passage Question. I will argue against other alternative characterizations of this debate—such as that of Nathan Oaklander—and identify which issues are central, and which are tangential, to it. In section 2, I outline the difference between two general kinds of evidence often elicited in this debate: evidence from scientific time, and

evidence from the ordinary experience of time. In subsequent chapters, I will use this distinction, along with my preferred characterization of the debate, to argue that the evidence from the time of ordinary experience ought not to lead us to prefer the A-theory of time.

The thought that our ordinary experience of time lends credence to the A-theory of time (but not the B-theory) is entirely commonplace in the literature surrounding this debate. In light of this presumption, which is often implicit, the debate revolves around whether or not the B-theory can manage to overcome the puzzling aspects of our ordinary experience—that is, that time *seems* to pass, that there *seems* to be a real distinction between past, present, and future, and that these sorts of seemings are so ubiquitous and undisputable. The dialectic then proceeds as follows: the B-theorist presents (or improves upon) arguments to the effect that her theory is consistent with experience and the A-theorist pokes holes in those arguments. Rather than enter into this dialectic, my aim is to reject it altogether by suggesting that the puzzles of ordinary temporal experience are, in fact, just as much a challenge for the A-theory as they are for the B-theory of time. This is to reject an underlying presumption in this debate that is not (to my knowledge) adequately addressed in the literature. In the next section, I identify what it is that is at the heart of this debate.

1.1 The Passage Question

Although this debate is articulated in different ways by its many participants, it is often carried out in the language of “passage.” While some thinkers maintain that time passes in some

mind-independent way, others maintain that time merely *seems* to pass. According to the A-theory of time, if there were no conscious observers, time would nonetheless pass. According to the B-theory of time, it would not. These two claims correspond to the divergence between *realism* and *eliminativism* about passage respectively.¹ I maintain that the reality of passage, therefore, is at the heart of this debate, whose central question I here refer to as the Passage Question: *Does time pass?*

The terms “A-theory” and “B-theory” are a relatively new addition to this very old debate. This terminology was inspired by John Ellis McTaggart’s “The Unreality of Time,” first published in 1908. The aim of McTaggart’s work is to argue that time itself is “unreal,” and so, in the subsequent literature, McTaggart is most often taken to be neither A-theorist nor B-theorist. Furthermore, although it is the source of this modern debate about passage, McTaggart’s central question is not phrased primarily in the language of passage. Rather, McTaggart’s question centres on the notion of temporal series: the A-series, which runs from past to present to future; and the B-series, which runs from earlier to later. McTaggart’s first point of order, then, is to decide “whether it is essential to the reality of time that its events should form an A series as well as a B series” (McTaggart 1908, 458).² McTaggart’s question, then, can be rephrased as follows: *Is the distinction between past, present, and future essential to time?*

¹ There may be room here for a third alternative—*reductionism* about passage—according to which passage is a real phenomenon, but is reducible to, for instance, facts about cognition. For the moment, I set this possibility aside.

² McTaggart also introduces the notion of a C-series, which I here set aside.

McTaggart's project is almost always taken in the literature to consist of two tasks. First, he takes on the positive project of arguing the A-series is fundamental to time—that is, that if time is real, then events must form an A-series (P1). Next, he argues that the A-series is contradictory, and so cannot be a feature of reality (P2). By *modus tollens*, then, McTaggart reaches his conclusion that time is unreal. From this argument, two schools of thought—the A-theory and the B-theory of time—clearly emerge.

I am endeavouring to base the unreality of time ... on the fact that [the A-series] is as essential as the B series—that the distinctions of past, present and future are essential to time, and that, if the distinctions are never true of reality, then no reality is in time. (McTaggart 1908, 464)

The A-theorist, in today's parlance, is someone who will agree with this much. "This view," according to McTaggart, maintains that "time, as we perceive it, always presents these distinctions. And it has generally been held that this is a real characteristic of time, and not an illusion due to the way in which we perceive it..." (McTaggart 1908, 464). McTaggart, of course, makes the further conclusion that the A-series is in fact impossible, and so that time is unreal; this is where the A-theorist parts ways with McTaggart. The B-theorist, on the other hand, maintains the opposite view—that is, that "the distinctions of past, present and future cannot be true of reality, and that consequently, if the reality of time is to be saved, the distinction in question must be shown to be unessential to time" (McTaggart 1908, 464). The B-theorist, then, accepts that the A-series is contradictory, but rejects McTaggart's claim that the

A-series is essential for time. Both sides of this debate, then, reject McTaggart's overarching *modus tollens* for the unreality of time, although for different reasons: the A-theorist rejects (P2), while the B-theorist rejects (P1).

I take this disagreement to be, in essence, the modern-day disagreement about passage. McTaggart's insistence that the A-series is necessary for time's existence (P1) is founded on the supposition that time requires change. Change, in turn, requires that an object remain the same object while exhibiting contrary properties. The only way for this to occur, argues McTaggart, is for things to change with respect to their A-series properties, or *A-determinations*—that is, their being past, present, or future. Change, and therefore time, requires that events go from being future, to being present, to being past. Passage, although it has been defined in many ways by its many proponents, is generally described in similar terms. As D.C. Williams notes, passage is the “mainspring of McTaggart's ‘A-series’ which puts movement in time... (D.C. Williams 1951, 461).” Anyone who agrees with McTaggart that the A-series is necessary for time (but does not think it incoherent) is also an advocate of passage. On the other hand, anyone who agrees with McTaggart that the A-series is incoherent (but does not take it to be fundamental) denies the existence of passage, as traditionally construed. McTaggart's inquiry, then, can be seen as a rephrasing of the Passage Question.

Yet another way to pose the Passage Question is by appeal to what Williams calls “the doctrine of the moving present” (D.C. Williams 1951, 462):

Time flows or flies or marches, years roll, hours pass. More explicitly we may speak as if the perceiving mind were stationary while time flows by like a river, with the flotsam of events upon it ... or, in Broad's analogy, as if it were a row of housefronts along which the spotlight of the present plays.... Sometimes the surge of presentness is conceived as a mere moving illumination by consciousness, sometimes as a sort of vivification and heightening, like an ocean wave heaving along beneath a stagnant expanse of floating seaweed, sometimes as no less than the boon of existence itself, reifying minute by minute a limbo of unthings (D.C. Williams 1951, 461–62).

As Williams' passage illustrates, this doctrine manifests itself in various analogies and metaphors. The common thread, however—and the reason that Williams calls this the doctrine of the “moving present”—should be evident. This doctrine maintains that the present is somehow ontologically or metaphysically distinguishable from all other moments of time in some special way. Furthermore, says this doctrine, the present “moves” in some very real sense in the earlier-to-later direction.³ It is tempting to interpret this doctrine as claiming that *pastness*, *presentness*, and *futurity* are intrinsic, monadic properties (as opposed to mere relational properties). Whether

³ It is possible that these two claims come apart. Someone may, for example, believe in the “doctrine of the static present,” according to which the present is metaphysically distinct, but does not move. I know of no one who holds such a view.

or not these properties are intrinsic, however, is not what is at stake. The doctrine of the moving present allows the possibility that *pastness* and *futurity* are a matter of being related in a certain way to the moving present. Furthermore, a moment's being present may consist solely in its standing in a certain relation to some other feature of time's metaphysical structure—for example, being adjacent to a branching future. Properties such as *pastness*, *presentness*, or *futurity*, then, need not be intrinsic or monadic. Thus, I see this not as a question about the nature of properties, but rather a much more straightforward one: *Is there a "moving present,"* whatever that may turn out to be? To embrace the moving present is to answer the Passage Question in the affirmative.⁴

One last instantiation of the Passage Question deserves mention in this introduction. It is often said that Heraclitus and Parmenides are among the earliest representatives of the A-theory and B-theory, respectively. Heraclitus famously says that "everything flows, nothing stands still" (Plato, *Cratylus*, 402a), clearly emphasizing the transient nature of our experience of time. Parmenides, on the other hand, strips away this feature of experience, and renounces motion, becoming, change, etc., as "the Way of Appearance [or Opinion, or Seeming]" (Parmenides, *On Nature*). Zeno, for example—who is thought to have been Parmenides' student—observes that

⁴ The reverse, however, may not be true. Oaklander (1984), for example, maintains that passage "does not involve a moving 'now,' but it does have a basis in reality, namely, in the simple temporal relations of earlier than and later than" (157, original emphasis). Nonetheless, belief in the moving present does commit one to passage, and so a clear relationship is generally acknowledged between these two notions.

motion can be no more than having different spatial locations at different times. At any given time, an object occupies a space equal to itself, and so is at rest; at no particular time, then, is the object in motion. The Parmenideans, in an inference similar to McTaggart's, conclude that motion is therefore unreal. Just as McTaggart's eliminativism about time sets the stage for both the A- and B-theories, the Parmenideans' eliminativism about motion and change yields two distinct views—*reductionism* and *anti-reductionism*—about change. According to the reductionists, motion just is having different spatial locations at different times and nothing more. Thus, although the reductionist agrees with Zeno's analysis of motion, she does not agree that motion is therefore unreal (e.g., Russell 1903; Paul 2010). The anti-reductionist, however, maintains not only that motion is real, but that the above analysis is lacking the “extra ingredient” essential for motion:

The more classical view takes motion to consist of something extra. Aristotle, Leibniz, and, in the twentieth century, among others, Whitehead, uncover in their analysis of motion and change an element of “transience.” McTaggart insists on passage as the extra ingredient required in the analysis of motion.... [It's that the object] becomes *present* after having been *future* and before becoming *past* that constitutes change (Dolev 2012, 56, original emphasis).

The anti-reductionist agrees with Parmenides, then, that change must be “something more” than what is described in Zeno's analysis. Like the reductionist, however, she rejects the conclusion

that change is impossible. The connection between this view and McTaggart's is clear, as proponents of both answer the following question in the affirmative: *Is there something more to change than merely having different properties at different times?* The debate between reductionism and anti-reductionism about change, then, is also intimately related to the Passage Question.

Thus far, at least four questions have been identified as central to the debate between A- and B-theories about time:

(i) *Does time pass?*

(ii) *Is the distinction between past, present, and future essential to time?*

(iii) *Is there a "moving present"?*

(iv) *Is there something more to change than merely having different properties at different times?*

I propose that questions (ii)-(iv) are all, more or less, ways of asking (i), *Does time pass?* Of course, these questions, insofar as they place emphasis on different aspects of this debate, will elicit different kinds of discussion. Question (ii), for example, may emphasize the conceptual or analytical evidence for passage, whereas discussions of (iv) tend to emphasize the phenomenological evidence. Furthermore, it is not immediately clear that someone who answers (i) in the affirmative must do so for all of questions (ii)-(iv). McTaggart, for example, answers in

the affirmative with respect to (ii) and (iv), but his answer to (iii) is “no.” As noted earlier, however, McTaggart is neither A-theorist nor B-theorist—time, according to McTaggart, is entirely unreal—indicating that those with diverging answers to questions (ii)-(iv) are the exception rather than the rule. The positions belonging to those who carry either the “A-theorist” or the “B-theorist” card can be slotted fairly easily into one of two camps: A-theorists, who answer “yes” to the above questions, and B-theorists, who answer “no.” In the next section, I elaborate on these two theories.

1.2 Two Answers: The A-theory vs. the B-theory

I maintain, then, that the question most central to this debate is the following: *Does time pass?*

The A-theory of time maintains that time passes. It is not, in fact, a single theory of time, but rather a family of theories which share certain essential tenets.⁵ The distinction between past, present, and future, according to this theory, is an objective feature of reality. If there were no conscious observers, says the A-theorist, it would remain a fact about the universe that one particular time is the present, and that any other moments that exist must be in the past or in the

⁵ For simplicity, I will continue to speak of “the A-theory of time” and “the A-theorist,” although it must be kept in mind that this actually refers to a rather varied group of theories and theorists with certain key commonalities.

future.⁶ The fact that tense is such a widespread and irreducible feature of natural language is a testament to this fact about reality. Time itself—and not just our experience of it—is “tensed” in a way that space, for example, is not. Furthermore, the objective present moves, grows, or progresses, by some physical, mind-independent process, in the earlier-to-later direction, and this process is what constitutes passage. Ideas about how this process works, and whether or not it is reducible to other processes, are the source of much variation across different A-theories of time. Whatever passage amounts to, it is the anti-reductionist’s “extra ingredient” that distinguishes real change from mere succession of properties across times. Without passage, it is often said, the universe would be “static.”

The B-theory of time, on the other hand, embraces this “static” characterization of time. The B-theoretic model is often referred to as “the block universe,” since it maintains that the universe, rather than evolving *in* time, is a four-dimensional entity in which time is a component (in particular, a dimension, along with the three dimensions of space). All moments of time, then, are equally a part of the universe. As Huw Price (1997) puts it, this theory “regards reality as a single entity of which time is an ingredient, rather than as a changeable reality set *in* time” (12). Price, however, rightly notes that the “static” block universe is only a metaphorical description of

⁶ Once again, there remains the possibility for a sort of reductionism about passage, that is, the view that it is reducible to features of the mind. If this were the case, the existence of passage would depend on the existence of conscious observers, despite being “real.” I once again set this possibility aside for the time being.

this model of time, and that taking these sorts of descriptions too seriously may lead to misunderstanding:

In an attempt to highlight the contrast with the dynamic character of the “moving present” view of time, people sometimes say that the block universe is *static*. This is rather misleading, however, as it suggests that there is a time frame in which the four-dimensional block universe stays the same. There isn’t of course. Time is supposed to be included in the block, so it is just as wrong to call it static as it is to call it dynamic or changeable. It isn’t *any* of these things, because it isn’t the right sort of entity—it isn’t an entity *in* time, in other words (Price 1997, 12–13, original emphasis).

Nonetheless, there is a fundamental disagreement between the B-theoretic model of time and that of the A-theorist. According to the B-theory, time’s passage is not an objective feature of reality, but is at most a cognitive illusion had by conscious observers in time. Time, then, does not pass. The distinction between past, present, and future is merely perspectival—akin to the spatial distinctions between up and down, right and left, or here and there. The big bang, the formation of the Earth, the Second World War, and next February are all equally real, and none could be objectively distinguished as “the present” except in an indexical sense—that is, only in the sense that your current location in space can be distinguished as “here.” The fact that tense is an essential part of natural language is simply a reflection of the fact that speakers always occupy

a certain temporal standpoint, and not a reflection on the structure of time itself. Change is simply a matter of objects having different properties at successive moments, and anything “extra” is illusory.

The B-theory, because it does not require a positive account of passage, is thought to admit of little variation. It is “metaphysically homogeneous” insofar as it maintains that all times are equally real, and that there are “neither qualitative temporal nor ontological differences” between them (Fiocco 2007, 3). The B-theory entails that the future is “fixed” in much the same way as the past, and that objects are extended through time (rather than moving through it). It seems, then, that there is very little room for variation across B-theorists.

1.3 Related Questions

A question about time that is often posed in the context of this debate—but is nonetheless tangential to this debate—is the following: *Are the past and future real?* *Eternalists* maintain that all times and the things and events they contain are real, while *presentists* believe that only present times, things, and events are real. A multitude of intermediary views exist. *Growing blockers* such as Michael Tooley, for example, maintain that the past and present are real, but the future is not (Tooley 1997). *Branching future-ists*, like Storrs McCall, believe that at any moment there exists just one past but an immense number of unique futures (McCall 1994). *Degree presentists* like Quentin Smith believe that times can be more or less real depending on

their temporal distance from the present, which is the most real (Smith 2002). This is just a sample of the many possible answers to the question of the reality of the past and future.

I did not include this question in (i)-(iv), however, because I believe it to quite drastically cross-cut the Passage Question. All B-theorists are eternalists; it is a fundamental tenet of the B-theory that all times are ontologically and metaphysically on par. The A-theory's relationship to this question, however, is much less straightforward. Tooley, McCall, and Smith, for example, are all A-theorists, despite their very different views on the reality of the past and future. This variation is due, once again, to the fact that the A-theory demands a positive account of passage: for Tooley, passage is a matter of being on the leading edge of existence, where new moments are continuously being created; for McCall, passage is the collapsing of multiple futures into one actuality; and for some others, passage involves the property of presentness, which surges across an otherwise static timeline. As noted previously, the "A-theory" refers to an incredibly wide range of models of time, and the debate between it and the B-theory of time is not the same debate as that between eternalism and presentism. Thus, in what follows, I assume that the B-theory is committed to eternalism, while assigning no such ontological view to the A-theorist.

Another question often thought to be intimately connected to this debate concerns language: *Is linguistic tense ineliminable?* In other words, can explicit talk of A-theoretic properties such as *pastness*, *presentness*, and *futurity* be reduced to talk about B-theoretic relations such as *earlier-than*, *simultaneous-with*, and *later-than*? *Tensors* answer this question in the negative; they maintain that sentences containing temporal indexicals, such as "now," "last

week,” or “in three years,” cannot be translated into indexical-free language without some loss of meaning, suggesting that the distinction between past, present, and future is irreducible and therefore fundamental. *De-tensers*, on the other hand, maintain that (at the very least) the truth-conditional contribution of tense can be reduced to B-theoretic language, and so A-theoretic properties are not essential features of reality. It is thought, then, that this linguistic debate is intimately connected with the metaphysical debate about the structure of time itself, and whether or not it features passage. I have not included this question in (i)-(iv), however, since I believe that it, in fact, cross-cuts the Passage Question. As I argue in chapter 3, metaphysical conclusions cannot be so easily drawn from facts about language.

1.4 Oaklander’s Alternative Question

My proposed characterization of the metaphysical debate between A-theorists and B-theorists is one at the centre of which lies the Passage Question: *Does time pass?* I also argued that the Passage Question occurs in many different forms: *Is the distinction between past, present, and future essential to time? Is there a “moving present”? Is there something more to change than merely having different properties at different times?* I argued that, roughly speaking, answering the above questions in the affirmative commits one to the A-theory of time, while answering them in the negative commits one to the B-theory of time. The A-theory and B-theory, then, can be taken to be “yes” and “no” answers (respectively) to the Passage Question. According to Oaklander, however, “the proper way to draw the lines in the metaphysical debate cuts across all those views” (Oaklander 2012, 1).

Oaklander maintains, innocuously enough, that to answer the philosophical question, “What is the nature of time?” is to “give an inventory of all temporal entities, or rather, all *kinds* of such entities there are” (Oaklander 2012, 2, original emphasis). As most philosophers of time would agree, in order to give such an inventory, one must decide whether or not there exists A-properties such as *presentness*, *pastness*, or *futurity*, and whether or not they are instantiated in things and events. If such properties do exist, a distinction may be drawn between, for example, past things and events (such as the Death of Queen Anne), present things (such as your reading this paragraph), and future things (such as the Big Crunch); if such properties do not exist, then there is no such distinction between *present* and *non-present* things and events. Oaklander, however, recognizes another issue that must be resolved by the philosopher of time in order to settle the inventory. This issue stems from an ambiguity in McTaggart’s treatment of the B-series.

According to Oaklander,

the B-series can be understood as [Bertrand] Russell understood it as involving unanalyzable temporal relations between its terms, which are thereby temporal, or as McTaggart understood it as involving a non-temporal relation between timeless terms.... (Oaklander 2012, 5)

Oaklander thus distinguishes two separate variants of the B-theory: that of Russell and that of McTaggart. On the Russellian B-theory, the direction of time is already contained in the B-series; the temporal dimension of this “block universe” has an intrinsic directedness that space,

for example, does not. On the McTaggartian B-theory, however, the B-series, by itself has no such directedness; it is only with the addition of the A-series that time has direction. For the McTaggartian B-theorist, the absence of an A-series means that it is purely a matter of convention as to which end of the series is called “earlier” and which is called “later.”⁷ To illustrate this difference, consider the following passages. According to Oaklander’s Russellian view,

for A- and B-theorists alike time has an intrinsic direction. What that means is that the sense of a temporal relation between *a* and *b* unlike the sense of a spatial or other non-temporal relation, does not depend on the point of view from which it is viewed. (Oaklander 1984, 143)

According to D.H. Mellor’s McTaggartian view, however,

the direction of time is the difference between being *earlier* than something and being *later* than it. The difference is not formal, as these relations are not differently related to each other: each is just the other’s converse. That is, any fact C is by definition earlier than any other fact D if and only if D is later than C.... (Mellor 1998, 118, original emphasis)

⁷ This is the kind of series that McTaggart calls a C-series, which, once again, I put aside.

Although both Oaklander and Mellor would agree that there is no “moving present,” no A-properties, etc., they disagree about whether or not time has an intrinsic direction.

According to Oaklander, then, the philosopher of time is faced not only with a choice between the A-theory and the B-theory; she is faced with a choice between the A-theory, the B-theory (as McTaggart and Mellor understand it), and the B*-theory (as Russell understood it). The A-theorist agrees with the B*-theorist that time is essentially directed, but they disagree on the particular nature of this directedness; the B*-theorist and the B-theorist disagree about this essential directedness, but agree that there is no “moving present”; and finally, the B-theorist and the A-theorist disagree about both.

Although the A-theory of time and the B*-theory of time—the latter of which Oaklander refers to as the R-theory of time, after Russell⁸—are in agreement that time is intrinsically directed, the difference between them, according to Oaklander, is at the heart of the debate about time. For the A-theorist, the direction of time is due to the successive acquiring and shedding of A-properties, such as *presentness*. A-properties, then, are fundamental to the A-theorist’s temporal inventory. For the B*-theorist, however, the direction of time is built into the very nature of B*-relations (*earlier-than**, *later-than**, and *simultaneous-with**), which are “simple, unanalyzable, irreducible,” and “known ostensibly” (Oaklander 2012, 13–14). B*-relations,

⁸ I continue to refer to this theory as the B*-theory of time.

rather than A-properties, are fundamental to the B*-theorist's inventory; in fact, according to the B*-theorist, there is no reason to suppose that A-properties exist at all.

The question at the heart of the debate about time, as characterized by Oaklander, is not the Passage Question, but rather the following: *Are A-properties fundamental to the existence of time?* The A-theorist answers "yes," while the B-theorist (and the B*-theorist), answers "no."

Why, one might ask, could this question not simply be added to the list of other questions that I take to be central to the debate (as spelled out in the end of section 1)? After all, the different answers to this question still correspond to a divergence between A-theorists and B/B*-theorists. Nonetheless, I maintain this question to be orthogonal to the metaphysical debate about time; that is, like the question dealt with in section 1.3, this particular question is *not* simply another way of asking the Passage Question. In fact, I maintain that it is possible to answer this question in the negative—that is, by maintaining that A-properties are *not* essential to time—and still turn out to be an A-theorist. Indeed, I take Oaklander's preferred theory—the B*-theory of time—to be answering the Passage Question in the affirmative, in fact making it an A-theory of sorts.

Consider Oaklander's notion of "temporal movement," which is a real phenomenon that is grounded in temporal relations:

At t₂, I am moving toward the pleasant experience at t₃ and away
from the unpleasant experience at t₁ because t₃ is later than t₂ and t₁

is earlier than t_2 . To be sure, the movement does not involve a moving “now,” but it does have a basis in reality, namely, in the simple temporal relations of earlier than and later than. (Oaklander 2004, 202)

Importantly, he notes, this movement is not a matter of a “moving now,” which would commit us to the existence of A-properties (and so entangle us in McTaggart’s paradox). It is clear from Oaklander’s writings, however, that this movement is not merely metaphorical, nor is it merely an element of our experience with no basis in reality. Temporal movement is a real feature of the world—it is an “object of acquaintance” in the Russellian sense. When pressed about the mysterious nature of this change, Oaklander simply insists that is in the “simple, unanalyzable, irreducible” nature of B*-relations to yield temporal movement; in one instant he concedes that the difference between this special temporal relation and all other relations is “difficult to recognize,” but nonetheless he maintains it is “known ostensibly” (Oaklander 2012, 13–14).

Interestingly, this sentiment is reminiscent of certain stock A-theoretical defences of the passage of time, such as C.D. Broad’s insistence that passage is a “rock-bottom peculiarity of time, distinguishing *temporal sequence* from all other instances of one-dimensional order...” (Broad 1959, 766, original emphasis). More recently, A-theorist Tim Maudlin says something similar: “The passing of time ... is the foundation of our asymmetrical treatment of the initial and final states of the universe. And it is not to be reduced to, or analyzed in terms of, anything else” (Maudlin 2007, 142). Oaklander’s R-theory (what I here refer to as the B*-theory), then, endorses what appears to be two central tenets of the standard A-theory of time: that there exists

some sort of objective movement in time, and that the nature and direction of this movement cannot be analyzed into, reduced to, or explained by, anything else. This, I think, is enough to collapse his view into the A-theory.

For present purposes, then, I take it that Oaklander's characterization of the debate—as one which asks the question, *Are A-properties fundamental to the existence of time?*—to be opposed to my own. For the above reasons, I maintain that this question is orthogonal to the real debate between A-theorists and B-theorists, and that it is rather the Passage Question—*Does time pass?*—that is at the heart of this debate. This is worth spelling out if only to emphasize that this debate ought to matter not only to the metaphysician or physicist, but to the layperson as well. The debate between the A-theory and the B-theory of time, as construed as one about the Passage Question, has *prima facie* implications for theorists and non-theorists alike: Are we, in fact, moving closer and closer to our deaths? Is our time, quite literally, running out?⁹ Oaklander's question about the essentiality of A-properties does not capture the immediacy of this debate's to our everyday life. The Passage Question, however, is meaningful to both philosopher and non-philosopher, since the passage of time is something that each of us experiences in our day-to-day lives. The Passage Question, then, makes an important connection with our ordinary experience of time, which, in the next section, I show is an important part of the puzzle driving this very debate.

⁹ Whether or not our moving closer and closer to death (and whether or not time literally “running out”) is a “bad” thing, of course, is another debate entirely.

2 Scientific Time and the Time of Ordinary Experience

As discussed above, Maudlin is generally labelled as a staunch modern-day A-theorist.

Maudlin claims that the metaphysician

ought to believe that there is objective [passage] because (1) the world is everywhere and always presented to us as a world in which things change.... That is, the basic approach to ontology is always to start with the world as given (the manifest image), and then adjust or adapt or modify or complicate that picture as needed.... (Maudlin 2007, 127)

In both Chapters 2 and 3, I focus on this particular methodology with respect to the debate between the A-theory and B-theory in the philosophy of time—that is, taking the “world as given” as our starting point. In particular, I explore claims about what conclusions about the metaphysics of time may arise in adhering to this sort of methodology. In this chapter, I wish to establish a rough dichotomy between two popular conceptions of time, *scientific time* and *the time of ordinary experience*, the latter being closely related to Maudlin’s “manifest image” mentioned above. As noted above, it is often thought that the time of ordinary experience—the evidence garnered from the manifest image of time—weighs in favour of the A-theory of time, and that it is up to the B-theorist to defend her view in light of the challenges presented by such evidence. I will argue, however, that the time of ordinary experience, does not, in fact, warrant

any quick and easy conclusions about whether we ought to adopt the A-theory or the B-theory of time; even adopting the above methodology of taking the manifest evidence as primary does not decide this debate one way or the other. In this way, I hope to challenge one of the most pervasive presuppositions in this debate, rather than take part in the debate as traditionally construed.

Maudlin's above mention of the "manifest image" is an allusion to Wilfrid Sellars. Sellars (1962) famously makes the distinction between the *manifest* and the *scientific* images of "man-in-the-world." According to Sellars, the manifest image is "a sophistication and refinement of the image in terms of which man first came to be aware of himself..." (Sellars 1962, 6). The objects which furnish this image of the world are, according to Sellars, the objects of everyday human life, such as persons, animals, rivers, days, communities, etc. The scientific image, on the other hand, postulates "imperceptible objects and events for the purposes of explaining correlations among perceptibles" (Sellars 1962, 19); it is the image of the world that today includes quarks, radio waves, photons, and electromagnetic fields. Sellars is careful to note that the manifest image is not therefore "unscientific;" its structuring and categorization of the visible world provide the very foundation for science. The philosopher is faced with the challenge of combining these two images of the world together in a single, stereoscopic view of reality:

For the philosopher is confronted not by one complex many dimensional picture, the unity of which, such as it is, he must come to appreciate; but by *two* pictures of essentially the same order of

complexity, each of which purports to be a complete picture of man-in-the-world, and which, after separate scrutiny, he must fuse into one vision. (Sellars 1962, 4)

Indeed, some of the most famous philosophical puzzles can be seen as an attempt to do just this. Zeno's paradoxes, for example, are often used as a means to introduce the student of philosophy to the ways in which our everyday experiences can be challenged by logical analysis. The "Dichotomy" paradox, for instance, is used to argue for the impossibility of motion using only uncontroversial premises and simple, valid forms of inference. The argument rests on the uncontroversial premise that "that which is in locomotion must arrive at the half-way stage before it arrives at the goal" (Aristotle, *Physics*, 239b11). In order to arrive at the half-way stage, however, the object must first reach the half-way stage to the half-way stage—that is, a quarter of the total distance. In order to reach this stage, however, it must reach the half-way stage to the half-way stage to the half-way stage—that is, an eighth of the total distance. This, of course, goes on *ad infinitum*, showing that motion requires that an infinite number of finite distances be traversed in a finite time, which is impossible. This example of tension between what experience tells us on one hand, and what logical analysis shows on the other, is importantly connected with Sellars' division between the manifest and the scientific image. On one hand, motion is a ubiquitous feature of the world around us—that is, an integral part of the manifest image. On the other hand, space and time seem to be continuous—that is, something the scientific image tells us about the world. The Dichotomy Paradox illustrates the difficulty with which the philosopher attempts to "fuse" these two visions of the world.

Another such example can be made of certain stock arguments for skepticism. According to one well-known argument, in order to know that you are now looking at this page, you must also know that you are not a brain in a vat, being stimulated in such a way as to yield a qualitatively identical experience. But you cannot know that you are not a brain in a vat, since the perceptions of a brain in a vat are qualitatively identical to those of a normal perceiver. By *modus tollens*, then, you do not (and cannot) know that you are now looking at this page. As with the Dichotomy paradox, this argument consists of seemingly uncontroversial premises and a valid inference form. The conclusion, however, contradicts that which we take ourselves to be most certain of, if we are to be certain of anything at all—that is, our current actions (say, looking at this page). The philosopher is, once again, faced with the task of fusing two images of the world into one: according to one, you know full well that you are a person, with a body, looking at a page; according to another, there are certain facts about the nature of knowledge and certainty that preclude your being certain of your own body, whereabouts, and actions. The manifest image is once again pitted against the scientific image.

With respect to these sorts of examples, it might be objected that the evidence against experience is not “scientific” in the usual sense of the word. Speculations about the nature of knowledge, for example, currently fall under the domain of epistemology rather than any of the hard sciences. My Sellars-inspired use of the word “scientific,” however, is meant to indicate only that such evidence involves what is, broadly-speaking, “imperceptibles.” Such evidence, in other words, is what results from our attempting to consider reality “objectively,” in some sense of that word. The manifest evidence, on the other hand, focuses solely on what is given to us

through ordinary experience, and so embraces the so-called “subjective.” Even the notions of objectivity and subjectivity, however, are rife with imprecision and contention, and will not map exactly onto Sellars’ distinction. It is perhaps tempting to map Sellars’ distinction onto the division between *a priori* and *a posteriori* knowledge. For example, while the Dichotomy Paradox is founded on certain *a priori* truths (e.g., that one cannot traverse an infinite distance in a finite time),¹⁰ our empirical knowledge of the world tells us that motion abounds. For this reason, it might seem that the manifest/scientific distinction is best characterized as a distinction between *a priori* and *a posteriori*, or even *analytic* and *synthetic*. Even these distinctions, however, will not correspond precisely with Sellars’; much of what constitutes the scientific image, after all, is based on empirical—that is, *a posteriori*, synthetic—evidence. Nonetheless, these sorts of commonly-made distinctions indicate that there is a general tendency to pit cold, hard metaphysics against the world of ordinary experience, from as far back as Parmenides’ “Way of Seeming” and “Way of Truth,” to Nagel’s “internal” and “external” views of the world (Nagel 1986).

As noted above, these two categorizations of arguments are rough and imprecise, and often overlap. The first family of arguments—that is, those based on the “logical,” “scientific,” “objective,” “a priori,” and “external” evidence—are thought to set our ordinary experience aside, while the second family of arguments—that is, those based on the “phenomenological,”

¹⁰ The sorts of truths that Zeno’s Dichotomy paradox relies on are generally taken (at the very least) to be necessary, *a priori* truths.

“manifest,” “subjective,” “internal” evidence—all take as primary evidence our ordinary experience. The former is thought to rely “less on the specifics of the individual’s makeup and position in the world, or on the character of the particular type of creature he is” (Nagel 1986, 5). The latter, however, embraces data gathered from our experience in the world as an observer with a particular vantage point.

Despite my rough and ready characterization of what I call “scientific time” and “the time of ordinary experience,” it is important to note that what these broad categories in fact represent is a variety of views, existing along an axis with the sophisticated reasoning of scientific time at one extreme, and the everyday thinking and talking about time on the other. The “distinction” between these families of views, then, is perhaps a difference of degree rather than a difference of kind. Nonetheless, the contrast between these extremes, I believe, is what motivates many philosophical puzzles—for example, those concerning the possibility of things like motion and knowledge. I believe it is also what drives much of the metaphysical debate concerning time.

In the introduction to *A Companion to the Philosophy of Time* (2013), editors Adrian Bardon and Heather Dyke invoke the language of Sellars’ manifest and scientific image in order to pose what they take to be the “fundamental question of contemporary time studies”:

According to our *manifest image of time*, we all share a common “now,” and time is dynamic, carrying us forward towards the future. But according to the *scientific image of time*, it is not dynamic, but static, and no moment of time is ontologically privileged, so the

“now” of lived experience must be an illusion: a mistaken projection of our perspective on to temporal reality itself. (Bardon and Dyke, 2, emphasis mine)

Bardon and Dyke maintain that one of the primary goals of the philosophy of time is to reconcile these two images, which are often in tension (Bardon and Dyke 2013, 2). Price (1997), makes a similar allusion to Sellar’s manifest-scientific distinction, urging that these two images of time be handled appropriately so as not to cause metaphysical confusion:

Where time itself is concerned, I claim, we haven’t yet managed to tease apart what Wilfred Sellars calls the scientific and manifest images—to distinguish how the world *actually is*, from how it *seems to be* from our particular standpoint. (Price 1997, 5, original emphasis)

Similarly, Broad (1938) identifies two separate aspects of time that are notoriously difficult to reconcile—that is, the *extensive* aspect of time, and the *transitory* aspect of time. The extensive aspect of time consists of duration and relations between times, analogous to spatial extension and relations. The transitory aspect of time is that aspect which has no spatial analogue; it consists of time’s passage from earlier to later. The former aspect of time, then, is strongly associated with the time of our ordinary experience, but largely ignored in the scientific conception of time. Like Price, Bardon, and Dyke, Broad sees this distinction to be central to the debate about time.

Consider, for example, this simplified¹¹ version of McTaggart's argument for the unreality of time:

(P1) If time is real, then there is change.

(P2) There is change if and only if events are future, present, and then past.

(P3) An event cannot be all of future, present, and then past.

Therefore, (Sub-C) there is no change (*modus tollens*: P2, P3).

Therefore, (C) time is not real (*modus tollens*: P1, Sub-C).

McTaggart's argument springs from considerations of the scientific time; its premises are metaphysical facts about the world that any rational agent could deduce, regardless (according to McTaggart, at least) of the nature of their own sensory apparatus or conceptual framework. The dependence of time upon change, for instance, is a fact about reality that is independent of any experiences had by temporal beings; it is a part of scientific time, "external" and "objective." McTaggart notes, however, that the conclusion to which it leads does happen to be in tension with our experience as temporal beings, that is, the sense that time, along with its distinction between past, present, and future, is very real. This is evidence garnered from time of ordinary experience, "internal" and "subjective." This evidence is so "internal," in fact, that it is often thought to be incommunicable via public language, despite being common to all human beings;

¹¹ This is a possible interpretation of McTaggart's argument, but certainly not the only (or best) one.

as St. Augustine famously muses, “What then *is* time? If no one asks me, I know; if I want to explain it to a questioner, I do not know” (*Confessions*, Book XI).

McTaggart’s argument for the unreality of time ultimately places the most weight on the evidence from scientific time; he concludes via logical analysis that time is impossible, despite what experience tells us. Other thinkers, however, take the evidence from the time of ordinary experience as conclusive, scientific or logical evidence notwithstanding. George Schlesinger (1982), for example, seems to think that time of ordinary experience ought always to take priority over scientific time:

Any philosophical argument that is designed to prove that something that is clearly observable by us does not exist amounts at most to clever sophistry.... Hence, followers of [the A-theory] may claim that the passage of time is a given, everyone at all times has been distinctly aware of it, and therefore [the B-theorists], while they may provide some scope for the intellectual exercise that is required in order to locate their fallacy, cannot affect our firm view concerning the status of temporal becoming. (Schlesinger 1982, 503)

As noted earlier, according to A-theorists such as Maudlin, we ought to take the “manifest” evidence—that is, our ordinary experience of time—as our starting point, and modify it if need be. This sentiment seems to be widely shared in the literature supporting the A-theory of time. The A-theory is the “folk” theory of time; it embraces the ubiquitous feeling that we are moving

away from the past and toward the future, and so is supported by experience. The B-theory, on the other hand, is thought to be overly-theoretical, belonging to physicists and philosophers who are concerned primarily with sophisticated logical and scientific puzzles about time. Because this theory clashes with our ordinary experience of time, it is valuable only insofar as it is more conducive to solving such puzzles. Once again, the tension between these two views—the A-theory and the B-theory of time—is fueled by the tension generated between the time of ordinary experience on one hand, and scientific time on the other.

3 Conclusion

In this chapter, I've argued that at the very heart of the debate between A-theorists and B-theorists lies the Passage Question:

(i) *Does time pass?*

I have also identified some variants of this question, which I also take to be central to this debate insofar as the answers to these questions are importantly connected with the answer to (i):

(ii) *Is the distinction between past, present, and future essential to time?*

(iii) *Is there a "moving present"?*

(iv) *Is there something more to change than merely having different properties at different times?*

When answering these questions about time, philosophers tend to draw on evidence that falls along an axis between two very different views of time: scientific time, and the time of ordinary experience. The following chapters are going to examine the ways in which these sorts of evidence are appealed to in order to support one theory or the other; in particular, I am interested in the ways in which the time of ordinary experience is thought to lend credence to the A-theory of time, often thought to be the “folk theory” of time. Chapter 2 examines the evidence from our ordinary *phenomenological* experience of time—that is, it looks at the evidence garnered from the way that time presents itself to our senses. Chapter 3 examines the evidence from our ordinary *linguistic* experience of time—that is, it looks at the evidence garnered from the way that we normally talk (and think) about things and events unfolding in time. In both chapters, it will be argued that these sorts of evidence from the ordinary experience of time do not, in fact, lend any more support to the A-theory of time than they do to the B-theory of time. Importantly, this is not to argue that the B-theory of time is perfectly consistent with such evidence; rather, the aim is to show that just as many inconsistencies with such evidence arise from the A-theory of time. In this way, I hope to challenge a significant presupposition that is too often tacitly accepted by both sides of the debate.

4 Works Cited

Bardon, Adrian, and Heather Dyke, eds. *A Companion to the Philosophy of Time*. Malden, MA: Wiley, 2013.

Broad, C.D. "A Reply to my Critics," in *The Philosophy of C.D. Broad*, ed. P.A. Schilpp. New York: Tudor Publishing Company, 1959.

Broad, C.D. "Ostensible Temporality," in *An Examination of McTaggart's Philosophy*, vol. 2, Cambridge: Cambridge University Press, 1938.

Dolev, Yuval. "Perceiving Transience," in *The Future of the Philosophy of Time*, ed. Adrian Bardon. New York: Routledge, 2012.

Fiocco, M. Oreste. "Passage, Becoming and the Nature of Temporal Reality." *Philosophia* 35, no. 1 (March 2007), 1–21.

Maudlin, Tim. *The Metaphysics within Physics*. Oxford: Oxford University Press, 2007.

McCall, Storrs. *A Model of the Universe*. Oxford: Clarendon Press, 1994.

McTaggart, J.M.E. "The Unreality of Time." *Mind* 17, no. 68 (October 1908), 457–74.

Mellor, D.H. *Real Time II*. New York: Routledge, 1998.

Nagel, Thomas. *The View from Nowhere*. New York: Oxford University Press, 1986.

Oaklander, Nathan L. *The Ontology of Time*. Amherst, NY: Prometheus Books, 2004.

———. "A-, B-, and R-Theories of Time: A Debate," in *The Future of the Philosophy of Time*, ed. Adrian Bardon. New York: Routledge, 2012.

Paul, L.A. "Temporal Experience," *Journal of Philosophy* 107, no. 7 (July 2010), 333–59.

Price, Huw. *Time's Arrow and Archimedes' Point: New Directions for the Physics of Time*. New York: Oxford University Press, 1997.

Russell, Bertrand. *Principles of Mathematics*. London: Allen & Unwin, 1903.

Schlesinger, George. "How Time Flies." *Mind* 91, no. 364 (October 1982), 501–23.

Sellars, Wilfred. "Philosophy and the Scientific Image of Man," in *Frontiers of Science and Philosophy*, ed. Robert Colodny. Pittsburgh: University of Pittsburgh Press, 1962.

Smith, Quentin. "Time and Degrees of Existence: A Theory of Degree Presentism," in *Time, Reality and Experience*, ed. Craig Callender. Cambridge: Cambridge University Press, 2002.

Tooley, Michael. *Time, Tense, and Causation*. Oxford: Oxford University Press, 1997.

Williams, D.C. "The Myth of Passage," *Journal of Philosophy* 48, no. 15 (1951), 457–72.

Chapter 2

1 Time and Experience

According to the A-theory of time, time passes. This passage is independent of any minds or observers in the universe, and it occurs in a particular temporal direction. Time, then, is unlike space insofar as it has an inherent grain whose direction is independent of any particular frame of reference. According to the B-theory of time, in contrast, time does not really pass. The feeling of flow that we experience as observers in time is, at most, a cognitive illusion that does not correspond to anything in reality. Past, present, and future are all part of a homogeneous manifold, and references to “now” and “then” are entirely perspectival, much like their spatial counterparts, “here” and “there.” As Hermann Weyl puts it, “The objective world simply is; it does not happen” (Weyl 1949, 116).

Much of the literature on the debate between these two theories exhibits a preoccupation with the phenomenology of time. Philosophers of time often talk about “temporal experience” and whether it supports one theory over the other. Although other sorts of evidence are also frequently considered—for example, scientific, linguistic, logical, and epistemological evidence—the centrality of phenomenology to the philosophy of time is striking. Aristotle’s treatment of time, for example—one of the earliest known contributions to the debate about time—takes as its starting point the observation that we always perceive time and movement together (e.g., see Book IV of the *Physics*). Founding such discussions on facts about experience

remains a popular practice in contemporary philosophy of time. Tim Maudlin (2007), for example, claims that the metaphysician

ought to believe that there is objective [passage] because (1) the world is everywhere and always *presented* to us as a world in which things change.... That is, the basic approach to ontology is always to start with the world as given (the manifest image), and then adjust or adapt or modify or complicate that picture as needed.... (Maudlin 2007, 127, emphasis mine)

The primary means by which the world is “presented to us” is through perceptual experience. This experience constitutes the *phenomenological data*, which is often thought to inform the metaphysical debate about time.

Specifically, I am interested in what Barry Dainton (2010) calls the *micro-phenomenology* of time. This is opposed to the *macro-phenomenology* of time, which deals with our perception of time across relatively long durations—life stages such as weeks, months, years, and so on. A common observation about the macro-phenomenology of time, for example, is that it seems to pass faster as we get older. A related phenomenon is the so-called “Holiday Paradox” in which a vacation “felt fast while you were there, but afterwards it feels as though you were away for ages” (Hammond 2012, 196). The micro-phenomenology of time, by contrast, is concerned with the short-term perception of time. It is, as Dainton puts it, a matter of “our experience from moment to moment within our streams of consciousness” (Dainton 2010, 103).

An example of a phenomenon relating to the micro-phenomenology of time is the “stopped clock illusion.” This is an instance of *chronostasis*; when first glancing at an analog clock, the second-hand will often appear momentarily to have stopped moving. When I say that the literature surrounding the A-theory and B-theory debate counts the phenomenological evidence as favouring the A-theory of time, I am referring to the micro-phenomenological evidence (unless otherwise stated).¹²

Another methodological point worth emphasizing is that this chapter draws primarily from the philosophical literature, rather than the psychological, or otherwise empirical, literature. In particular, my aim in this chapter is to bring together a number of disparate observations made by philosophers occupying different positions in this debate in order to synthesize a novel, broader argument to the effect that the B-theory of time need not bear the burden of proof in the face of the phenomenological data.

2 Experience and the B-theory of Time

Why, then, is the A-theory thought to be supported by the phenomenological data surrounding time? First, I will establish what I take to be the main pieces of phenomenological data—that is, the primary elements of our temporal phenomenological experience. Then, I will outline why these elements of our experience are generally taken as evidence for the A-theory of

¹² Although the macro-phenomenology of time certainly might be seen to support it, as well.

time. This, I hope, will set the stage for section 2.3, where I argue that the phenomenological data does not, in fact, support the A-theory any more than it does the B-theory of time.

2.1 Presence and Passage

Our phenomenological experience of time is generally taken (i.e., in the philosophical literature) to consist of two primary elements: *presence* and *passage*. By “presence” I mean the experiential fact that one particular time—that is, the present—is in some way metaphysically or ontologically privileged over all past or future times. By “passage” I mean the experiential fact that time involves a sort of flow, movement, or succession from earlier times to later times. Certainly, there are other things that can be said about our experience of time—for example, that time seems to pass at a certain rate, that it is irreversible and inexorable, and so on. These aspects of our experience of time, however, are not primary in the way that presence and passage are. The rate of time’s passage, for example, presupposes that time passes (but not vice versa). Thus I maintain, along with many other contemporary philosophers of time, that presence and passage constitute our fundamental phenomenological experience of time. Huw Price (1997), for example, identifies these two problems in particular as those which have occupied thinkers from St. Augustine up to the current day:

These two problems—the first the status of the past-present-future distinction, and the related concern about the existence of the past and the future, and the second the issue of the flow of time—remain the focus of much work in the philosophy of time. (Price 1997, 12)

According to Price, what makes these problems so central to time is “our own experience of time,” which prominently features both “the objective present” and “the objective flow of time” (Price 1997, 14). Similarly, Dainton describes what he calls the “natural view of time,” in which “only the present is fully real ... [and] the present is constantly advancing” (Dainton 2010, 28). Dainton’s discussion of this “natural view” is then carried out under two sub-headings: “the presence of experience,” and “experiencing passage” (see section 3.2 of Dainton 2010). I take Dainton’s “natural view” to be one inspired by our phenomenological experience of time, which features both presence and passage.

George Schlesinger (1980) describes in quite plain terms what I here refer to as “presence” when he notes that

Along a human consciousness, which may stretch out over several decades, each point is not like every other point. In fact there is one particular point which is real and alive while every other point exists only in one’s memory or in one’s anticipation. (Schlesinger 1980, 153)

It is a fact of our temporal experience that we at all times feel confined to one particular moment in time, to the exclusion of all others. The experience of space, by contrast, is such that I am able to experience my being at multiple spatial locations at once: my fingers over the keyboard, my feet under the desk, and so on. These spatial locations need not be contiguous; I can imagine a situation, for example, in which my feet are across the room, and my left hand is upstairs. In the

temporal dimension, however, my experience is entirely constricted to a remarkably brief period of time, which, if divisible at all, consists of a small number of contiguous moments which make up a single “now.”¹³ All earlier and later moments, as Schlesinger remarks, seem to exist only in my memory or in anticipation.

Not only is experience confined to one moment at the expense of all others, but the particular moment in which experience takes place is, without exception, felt to be in the *objective present*—the single moment that, according to the A-theorist, is mind-independently distinguishable from the past and the future. I call this element of our temporal experience “presence*” in order to distinguish it from “presence” as described more generally above.¹⁴

While I may refer to my location in space as “here,” I recognize that there is nothing objectively distinguishable about it; other spatial locations—all of them, as far as I know—are just as real as my “here.” Our experience of time, however, is different. The moment of time in which an experience occurs—that is, the present—seems to be unique insofar as it is happening *now*. Furthermore, it feels as if all observers in the universe are experiencing precisely the same present, and so would agree on which events are happening *now*. The objective present,

¹³ There are varying opinions on just how brief this “now” is. For discussions on this topic, see Le Poidevin’s (2011) entry in the Stanford Encyclopedia of Philosophy, “The Experience and Perception of Time” (particularly the section titled “The Specious Present”).

¹⁴ Presence is the general feeling that what is currently happening is distinguished in some way; presence*, on the other hand, is the feeling that what distinguishes this moment specifically is that it is located at the *objective present*, a distinguished time in the universe. Throughout this chapter, I will continue to distinguish between presence* and presence using the asterisk.

however, is threatened by our best current physical theories; Relativity Theory tells us that simultaneity is relative to an observer's frame of reference. The difficulty with which most of us are able to grasp this concept, however, indicates just how central presence (and belief in the objective present) is to our phenomenological experience of time. Craig Bourne (2006) insists that any acceptable theory of time ought to be able to explain this feature of our experience, a challenge which he calls the "Problem of Presence."

Yuri Balashov (2005) articulates nicely the difficulty of this challenge presented to us by presence. Presence, according to Balashov, can be analyzed into three secondary experiential phenomena: not just presence*, but also *exclusion* and *occurrence*. Balashov notes that presence is not simply a matter of experience being felt to be in the present (as opposed to in the past or future):

Moreover, an experience known, in this sense, to be present—say, your having breakfast earlier today—is known to be present *at the expense of others* (your having dinner last night and your reading this paper now), which are believed not to occur in the present.... Not only is every experience known to occur in the present, it is so *to the exclusion of its predecessors and successors*. (Balashov 2005, 295, emphasis mine).

This, says Balashov, is exclusion. Exclusion, Balashov remarks, does not itself "break the parity of our experiences from different times" (*ibid.*). What breaks this parity, and thus makes the

experience of presence difficult to account for, is what Balashov calls “occurrence”—that is, the feeling that “some experiences occur, not merely when they do (and when they are known to be present at the expense of others), but *now*”; in other words, only the present experience seems to “be occurring *simpliciter*” (*ibid.*, original emphasis). Balashov maintains that occurrence is the element of presence that constitutes “the *hard* problem of [presence]” (Balashov 2005, 296, original emphasis).

Not only does temporal experience involve the experience of presence—again, encompassing presence*, exclusion, and occurrence—but it also involves some sense of movement, flow, progression, or passage. This claim that time “flows” is notoriously vague; movement, in the traditional sense, is something which is measured by space and time together, and so the literal movement *of time itself* (or else movement *in time alone*) makes little sense. Nonetheless, there is certainly a sense in which we feel that we are moving away from past events and towards future ones—for example, away from breakfast this morning and towards dinner this evening. In the following passage, which I quote at length, D.C. Williams (1951) articulates the common notion of temporal movement with a literary flair (quoted here in full¹⁵) quite uncharacteristic of twentieth-century analytic metaphysics:

Time flows or flies or marches, years roll, hours pass. More explicitly
we may speak as if the perceiving mind were stationary while time

¹⁵ This is also quoted (nearly in full) in chapter 1.

flows by like a river, with the flotsam of events upon it; or as if presentness were a fixed pointer under which the tape of happenings slides; or as if the time sequence were a moving-picture film, unwinding from the dark reel of the future, projected briefly on the screen of the present, and rewound into the dark can of the past. Sometimes, again, we speak as if the time sequence were a stationary plain or ocean on which we voyage, or a variegated river gorge down which we drift; or, in Broad's analogy, as if it were a row of housefronts along which the spotlight of the present plays. "The essence of newness," Santayana says, "runs like a fire along the fuse of time." Augustine pictures the present passing into the past, where the modern pictures the present as invading the future.... Sometimes the surge of presentness is conceived as a mere moving illumination by consciousness, sometimes as a sort of vivification and heightening, like an ocean wave heaving along beneath a stagnant expanse of floating seaweed, sometimes as no less than the boon of existence itself, reifying minute by minute a limbo of unthings. (D.C. Williams 1951, 461–62)

If any notion within the realm of analytic metaphysics is deserving of so poetic a treatment, it is undoubtedly that of temporal passage. Despite its ubiquity within human experience, the only ways we have of speaking about temporal passage are rife with

contradiction. As D.C. Williams notes, “the instant one thinks about them one feels uneasy, and the laborious effort can not construct an intelligible theory which admits of the literal truth of any of them” (*ibid.*). The result is that discussions about temporal passage are often filled with metaphors, analogies, and imageries.

That the experiences of presence and passage lend credence to the A-theory of time, while posing a challenge to the B-theory of time, is generally thought to require little defence. According to the A-theory of time, our experiences of both are reflective of mind-independent phenomena in the world. The A-theorist maintains that the present, for example, is objectively distinguishable by having some ontological or otherwise metaphysical property, which is absent from all other times. The precise nature of this property is an issue of contention amongst A-theorists. *Presentists*, for example, believe that the property belonging uniquely to the present is existence itself, while a so-called *moving spotlight* theorist may believe that existence is a property belonging to all times and events, and so the property of *presentness* is something above and beyond mere existence. For a *growing block* theorist, *presentness* is perhaps best thought of as the property of being the newest moment in existence—that is, that moment which is contiguous with the void where future moments have yet to appear. For a *branching tree* theorist, the property of *presentness* is something like being adjacent to the branching of the open future. Whatever the nature of this special property that distinguishes the present from all other moments—what I have here been calling “*presentness*”—it is thought by the A-theorist to be the feature of reality that is responsible for our experience of presence.

Furthermore, the A-theory maintains that the present moves, progresses, or flows in a particular direction, and this is thought to account (at least in part) for our experience of passage. Once again, there is no general consensus amongst A-theorists regarding the precise nature of this feature of reality. A-theorists will agree, however, that it is a mind-independent feature of the world, that it occurs in a particular direction, and that it is entirely observer-independent. This special A-theoretic feature of reality is what purports to account for our experience of passage.

The B-theorist, by contrast, does not seem to have any of these resources at her disposal. According to the B-theory, all times are on an ontological par; yesterday, for example is just as “real” as today, as is tomorrow. There seems to be no reason, then, for our experience of today to feel “more real” than, or else somehow distinguished amongst, those of yesterday and tomorrow. Certainly, the experiences of yesterday felt (at that time) to be similarly special, as will the experiences of tomorrow; this is Balashov’s point when he says that “[presence] does not break the parity among our experiences from different times; it only makes the parity richer in content...” (Balashov, 2005, 295). What does break this parity, however, is “the sense in which some experiences are known to be *occurring*, or *present*, as opposed to *not* occurring, or *absent*. [This] is a distinct phenomenon that constitutes the *hard* problem of [presence]” (Balashov 2005, 296, original emphasis). The B-theorist, it appears, does not have the means to break the parity of events from an objective standpoint because all times, events, and experiences are ontologically and otherwise metaphysically on a par. It would seem that no feature of a B-theoretic world could account for our experience of presence.

The experience of passage, it is thought, is similarly difficult to ground in a B-theoretic world. Although A-theoretic conceptions of passage differ from one another, they generally involve a process of objective progression, succession, or even attrition, and these processes are the source of the felt passage of time (along with its rate and direction). The B-theory of time, however, does not seem to be able to account for our experience of passage, since it maintains that things and events are spread out in time and have no particular directional grain.¹⁶

The experiences of presence and passage, then, are generally taken as evidence in favour of the A-theory of time. According to many A- and B-theorists alike, in fact, our experience of time is the *best* evidence there is for the A-theory of time. According to Price (1997), for example,

the most influential argument in favour of the *objective present* and *objective flow of time* rests on an appeal to psychology—to our own experience of time. It seems to us as if time flows, the argument runs, and surely the most reasonable explanation of this is that there is some genuine movement of time which we experience, or in which we partake. (Price 1997, 14, emphasis mine)

¹⁶ Some thinkers maintain that an objective present is not required to account for objective passage. Nathan Oaklander (1984, 2004, 2012) and Natalja Deng (2010), for example, argue that the B-theorist may employ a notion of transition that is sufficient to generate objective passage, even without the help of a moving now. In any case, it is emphasized by Oaklander that this view requires a particular Russellian analysis of temporal relations, which is beyond the scope of this thesis.

Similarly, D.C. Williams maintains—with his characteristic flair—that our experience of time is at once the “vaguest” yet the “most substantial and incorrigible” evidence for the belief in the A-theory of time:

It is simply that we *find* passage, that we are immediately and poignantly involved in the jerk and whoosh of process, the felt flow of one moment into the next. (D.C. Williams 1951, 466, original emphasis)

It is clear that the evidence from the phenomenology of time—that is, the felt “jerk and whoosh of process”—is at the very core of the motivation for the A-theory of time¹⁷ and the philosophical debate about time in general.

The centrality of experience is not a feature common to all metaphysical debates. Debates about the metaphysics of reference, for example, typically involve a lot of *a priori* reasoning—for example, about hypothetical twin Earths, or fictional men named Schmidt, Jones, and O’Leary. The modern canon of the philosophy of language is not so concerned with how it *feels* to refer as it is with sound reasoning about the reference relation. Similarly, debates about material constitution are concerned with logical principles such as Leibniz’ Law, or the

¹⁷ It is my suspicion, in fact, that this experience-based evidence constitutes the entirety of such motivations. Nothing in this thesis hangs on this point, however.

“extensionality principle.”¹⁸ Whether or not it seems to us in our phenomenological experience that the statue is, in fact, two objects—say, a statue of David and a lump of clay—is not taken as decisive in this debate. Many A-theorists, however, believe that our experience of presence and passage is conclusive evidence for the A-theory; Schlesinger, for example, insists that passage is “clearly observable by us” and so the B-theorist simply “cannot affect our firm view concerning the status of temporal becoming” (Schlesinger 1982, 503).

Clifford Williams (1998), in “A Bergsonian Approach to A- and B-time,” comments on this disparity among metaphysical debates:

There is a continuum of closeness and farness from experience, and it is, to be sure, difficult to tell where on the continuum any given issue falls. Indeed, part of what constitutes metaphysical reasoning consists in trying to determine this. Yet it is apparent that some issues are closer to one end of the continuum than the other. (C. Williams 1998, 390)

Williams maintains that the debate about time falls more closely to the end of the continuum that exhibits a closeness to experience. He argues for this claim by comparing the debate about time to other metaphysical debates, such as debates about colour, Platonic forms, and substance- and

¹⁸ For example, see Ryan Wasserman’s (2014) Stanford Encyclopedia of Philosophy entry, “Material Constitution.”

event-ontology. Debates about colour, for instance, are inextricably bound to the nature of our experiences. Williams claims that the debate about time is comparable, insofar as “time, like colour, is able to be experienced”; furthermore, “neither time words nor colour words are like highly theoretical terms in physics and chemistry, which are connected to experience only indirectly” (C. Williams 1998, 390). I am dubious of this claim, since whether or not time is “highly theoretical” and “connected to experience only indirectly” is, in some sense, precisely what is at stake in the debate between the A-theory and the B-theory. Nonetheless, Williams’ claim certainly reflects a sentiment common to the literature surrounding this debate—that experience is central to the reality of time.

D.C. Williams articulates this sentiment—or, at least one that is closely related to it—by comparing time to other elements of reality that, as it turns out, are counter to experience. He notes how science often teaches us that the real world “exist[s] on a different plane or in a different realm from the sensuous spread and lumpiness of experience” (D.C. Williams 1951, 466). He goes on to observe, however, that the “ideas of time ... do not permit of such evasion. Those beings are given in their own right and person, filling the foreground. Here for once we must fit the fact directly into an intellectual form...” (*ibid.*).

The metaphysical debate about time, then, is one wherein experience plays a particularly salient role. This is hardly surprising given the centrality of time to our experience as human beings in general. As L.A. Paul (2010) notes,

In some deep but hard to define way, our temporal experience is caught up with our sense of being, that is, our sense of what we are and how we are.... Making sense of the features of temporal experience is fundamental to our ability to make sense of the world and of ourselves as agents in the world and bears important connections to one's having a point of view and to one's sense of being a self. (Paul 2010, 99)

In sum, the literature indicates that both presence and passage—insofar as they are central elements of our phenomenological experience of time—are thought to weigh heavily in the metaphysical debate about time, and almost always in favour of the A-theory.

2.2 Possible B-theoretic Defences

In the preceding section, I hope to have illustrated a.) that presence and passage are the primary elements of the phenomenological data surrounding time, and b.) why presence and passage are so often thought to provide evidence for the A-theory of time rather than the B-theory of time. In this section, I describe the means by which most B-theorists defend themselves against such claims. In particular, I focus on two kinds of defence that are found in the literature. The defence that I find to be the most promising, however, is an alternative one, which I present in detail in section 2.3.

The phenomenological argument against the B-theory of time can be characterized very roughly as follows:

(P1) The A-theory of time coheres with the phenomenology of presence and passage.

(P2) The B-theory of time does not cohere with the phenomenology of presence and passage.

(P3) If the A-theory coheres with the phenomenology of presence and passage, and the B-theory does not, then the A-theory is superior to the B-theory.

(C) The A-theory of time is superior to the B-theory of time
(*modus ponens*: P1, P2, and P3).

Call this argument the Phenomenological Argument (PA). Very roughly, it is this chain of reasoning that makes up much of the force behind the idea that the burden of proof lies with the B-theorist rather than the A-theorist.

The premises for this argument are all buttressed by the alleged phenomenology of presence and passage: (P1) makes a claim about how the A-theory measures up to the phenomenological data, and (P2) does the same with respect to the B-theory, while (P3) makes a claim about the credibility of both theories in light of their relationships to phenomenological data. From these premises, the conclusion (C) is reached, which itself makes no mention of phenomenology. According to a forthcoming paper by Josh Parsons (2013), there are two options for responding to such an argument:

When replying to an argument that has a phenomenological premise, one can do two things that are not always clearly distinguished. On the one hand, one can deny that the person giving the argument has phenomenology [*sic*] they report; on the other, one can accept that they do, but explain that it is the result of an illusion. (Parsons 2013)

With respect to the debate between the A-theory and the B-theory of time, these two defences are the most common ones adopted by B-theorists in response to PA. The first type of response is what I refer to as the *false-report defence*, while the second type of response I refer to as the *illusion defence*.

The false-report defence involves, in Parsons' words, denying that "the person giving the argument has the phenomenology they report." As argued in the preceding section, the elements of our phenomenology of time that are meant to discredit the B-theory of time are presence and passage. It is these two experiences in particular, then, that must be denied by the B-theorist employing this type of defence. *Prima facie*, it certainly seems a tall order to convince someone that they are not experiencing what they take themselves to be experiencing; phenomenological experience, after all, is often taken to be one of the incredibly few domains (perhaps the only

domain) in which one cannot be mistaken.¹⁹ Nonetheless, the false-report defence has been employed by certain philosophers of time.

Craig Callender (2008), for example, denies that presence* is actually a feature of our phenomenological experience of time. He argues that, upon contemplation, one will find that there is no “distinct aspect of experience that deserves to be dubbed experience of being present” (Callender 2008, 345). Surely, one might respond, there is still something special about being present that seems to make it distinct from other times. It feels, for example, as if the present is “more real” than other times. Still, says Callender,

to evaluate such claims we must carefully disentangle the experience itself from judgments and descriptions of it. Since our mental representations of the world are often tensed, it’s often natural to describe our experience as if we are interacting with some feature of the external world called presentness. Yet it’s hardly clear that *being present* is a phenomenal property. (Callender 2008, 341, original emphasis)

¹⁹ John Locke, for example, says that it is “impossible for any one to perceive, without perceiving that he does perceive. When we see, hear, smell, taste, feel, meditate, or will any thing, we know that we do so” (Locke 1689/1975, II.27.ix).

Callender provides two reasons in particular for thinking that presence* is not a part of our experience of time. The first he attributes to D.H. Mellor, who points out that objects from the distant past are, in fact, sometimes experienced via the present—for example, remote galaxies seen through telescopes—yet they do not seem to have some eerie property of *pastness* about them; rather, they appear just as they would were they a part of the immediate present (Mellor 1981). The claim that presence involves sensing the property of *being present*, then, is problematic. The second reason to think that we do not experience presence* is related to the fact that a crucial role played by phenomenal properties is to distinguish some experiences from other experiences. Since all experiences are said to involve presence*, however,²⁰ the property of *presentness* (or *being present*) itself cannot play this role. As Callender puts it, presence (and presence*) seems to imply that we can “stand outside the realm of what exists and can feel the contrast with the unreal”—which, of course, we cannot (Callender 2008, 341).

In a similar vein, certain philosophers have argued that passage is not, in fact, a feature of our phenomenological experience of time. Simon Prosser (2007), for example, argues not only that we do not experience the passage of time, but that it is not even *possible* to experience the passage of time. Prosser argues that since “the laws of physics can be expressed in a way that makes no commitment regarding temporal passage,” temporal passage can play no role in shaping the physical world (Prosser 2007, 82). Insofar as our experiences are part of—or, at

²⁰ Even if looking through a telescope at a remote galaxy, after all, the experience itself is felt to be happening in the present.

least, supervene on—the physical world, then, temporal passage can play no role in shaping our experience either. Consequently, says Prosser,

the passage of time has no role in shaping experience and hence it cannot be experienced. Moreover one cannot coherently argue for its existence without claiming that it is experienced, for we have no grasp of what it is supposed to be except through experience. (Prosser 2007, 76)

According to Prosser, then, A-theorists are wrong to think that the phenomenological data indicates that time's passage is real; if anything, the impossibility of experiencing passage means that there is no good reason at all to think that time really passes. According to Prosser, then, experience in fact favours the B-theory of time.

The false-report defence, then, can be read as an attempt to challenge (P2) of PA—the premise which claims that the B-theory of time does not fit with the phenomenological data. In arguing that presence and passage are not, in fact, elements of our phenomenological experience of time, thinkers such as Callender and Prosser challenge this statement. If the B-theory of time is true, they say, the phenomenological data reflects this truth; in a B-theoretic world, the present is not distinguished and there is no passage, and—contrary to popular belief—neither presence nor passage are a feature of our experience of time anyway.

Attempting to establish that we do not, in fact, have the experiences that we believe we have, however, certainly seems an insurmountable task. It is perhaps for this reason that the false-report defence is not more common within the literature defending the B-theory of time. Whether or not these particular instances of the false-report defence succeed, however, is beyond the scope of this thesis. In any case, it is not what I take to be the most promising defence available to the B-theorist.

A defence which is far more common in the B-theorist literature is the illusion defence, which begins by accepting the standard characterization of the phenomenology of time. B-theorists who adopt this approach to PA acknowledge that both presence and passage are central elements of our temporal experience, but attempt to provide plausible explanations as to how such experiences might arise in a world that is objectively presence-less and passage-less. In effect, this defence rejects (P3) of PA—that the A-theory’s ability to cohere with the phenomenological data (and the B-theory’s inability to do so) means that the A-theory is superior. If the experience of presence and passage could be an illusion arising in a purely B-theoretic world, then there is less reason—perhaps no reason at all—to suppose that our experience of time transparently reflects the metaphysical nature of time. If this is correct, then there is no reason to suppose that the theory which better coheres with the phenomenological data is superior to the one that does not.

The two illusions in particular that require explaining are, of course, presence and passage. Presence, according to some thinkers, is easily explained away by the B-theory of time.

Since the B-theory of time maintains that “the present” is merely an indexical phrase, it follows in a straightforward way that every experience is necessarily “present,” insofar as it is present relative to its temporal index. Consider, for example, the sentence “I am here.” In Kaplanian terms (Kaplan 1977), the proposition expressed is not necessarily true, since I may have been in any number of places at this time; the character of the sentence is analytic, however, since “here” will always refer to wherever the speaker happens to be. Bourne (2006)—an A-theorist—recognizes as the main advantage of the B-theory of time that B-theorists

treat the terms “present” and “now” as indexical terms: my use of “now” at any given time simply picks out the time at which it is used; consequently, my now is guaranteed to be present, since it is merely the time at which I am: *sum ergo sum nunc*. How could I be anywhere else? (Bourne 2006, 21)

As Balashov (2005) argues, however, the mere fact that my experiences seem to take place in the present is not the “hard problem” of presence. The real illusion to account for is why some experiences seem to be taking place *simpliciter*, while others are not—that is, the problem of occurrence:

The quandary is essentially about the origin of the phenomenal disparity among the experiences that are [according to the B-theorist] ontologically on a par. It appears that the parity among them must be broken somewhere *en route* from ontology to phenomenology. How

exactly does it come to be broken? (What is the parity breaking mechanism?) And why is it broken in this *particular* way, favoring [one time over another]? (Balashov 2005, 299, original emphasis)

The standard B-theory of time, according to A-theorists, cannot solve this “quandary.” Although the B-theory provides an account of why we feel every experience to be present, it does not provide an account of why the present seems, at any given time, to be the only time in existence (since, on the B-theory, all times are on an ontological par). Balashov himself suggests a possible solution for the B-theorist, which involves identifying experiencing subjects with momentary person-stages:

The way to [account for this] is to attribute the experiences occurring at different times to different items: distinct person-stages. From each stage's perspective, its experiences are *believed* to be present to the exclusion of others.... Each person-stage lives in its own "temporal world" and every experience is present, as well as believed to be occurring *simpliciter*, at its corresponding date, because the belief in question is uniquely possessed by the stage existing at that date.

(Balashov 2005, 306, original emphasis)

Dainton (2010) proposes a similar account of the illusion of presence, drawing a spatial analogy involving a series of strange streetlamps whose light fades away within a few feet. Someone standing under one such streetlamp may mistakenly believe that she is alone, not being able to

see the other subjects all around her, each illuminated by light of their own strange streetlamps. This analogy leads Dainton to conclude that “the fact that at any given time we are not aware of experiences occurring at other times does not mean that these experiences are not there” (Dainton 2010, 30).

Accounts of the “illusion of passage” are typically more complicated. One of the best-known of these accounts is given by Mellor (1998). Mellor recognizes that A-beliefs—that is, beliefs about the *pastness*, *presentness*, or *futurity* of times or events—are essential to human psychology and action, and that they are continually changing. Our beliefs about what is happening *now*, for example, must differ from one moment to the next in order to remain true. It is these differences, says Mellor, that “embody the psychological truth in the metaphysical falsehood that time flows...” (Mellor 1998, 66). The acquisition of a new A-belief, along with our memories of having had different A-beliefs at other times, is said to generate a feeling of temporal passage despite the fact that no such passage objectively exists.

Similarly, J.J.C. Smart (2006) draws on the work of physicist James B. Hartle (2005) to argue that the feeling of temporal passage may arise from the apparent “flow of information” through short-term memory. Hartle describes a hypothetical information gathering and utilizing system (IGUS) that continually updates its sensory information by getting rid of the “old” and bringing in the “new.” This repeated shifting of information creates a sense of flow that an IGUS, if able to perceive its own inner states, may confuse with the flow of time itself (Smart 2006).

There are at least two reasons that A-theorists typically do not accept such accounts of the alleged illusion of passage. The first is inspired by William James' assertion in *The Principles of Psychology* (1890/1891) that “*a succession of feelings, in and of itself, is not a feeling of succession*” (629, original emphasis). As observed by Christoph Hoerl (2013), this has become something of a slogan amongst certain thinkers writing about the experience of time. Those who endorse this slogan insist that a mere series of experiences, such as Mellor's changing A-beliefs or the continuous updating of Hartle's IGUS, is not enough to generate a feeling of passage. They often maintain that the experience of passage, in fact, occurs within a single experience. C.D. Broad (1923), for example, points to the “notorious fact” that

we do not merely notice that something has moved or otherwise changed; we also often see something *moving* or *changing*. This happens if we look at the second-hand of a watch or look at a flickering flame. These are experiences of a quite unique kind; we could no more describe what we sense in them to a man who had never had such experiences than we could describe a red colour to a man born blind. (Broad 1923, 351, emphasis mine)

According to Mellor, I have different A-beliefs at different times. Some of these A-beliefs will even be tinged with the memories of my having had different A-beliefs in the immediate past. I am inclined to agree with thinkers like Broad, however, that this does not account for my perception of the *transition* from one A-belief to the next. Similarly, Hartle's IGUS may possess

different sets of information at different times, and may even be aware of having had a different set of information in the immediate past; this, however, does not seem to account for the IGUS' experience of flow between one set of information and the next. In keeping with the above slogan, it might be said that *a succession of perceptions does not a perception of succession make*.

Another reason to think that these kinds of accounts of the illusion of passage are lacking is that they do not account for the felt direction of time's passage. Mellor attempts to explain this feature of our experience of passage by appealing to the nature of both memory and causation:

In short, our experience of the direction of time demands nothing more than an accumulation of memories, of memories of memories, and so on. This, and the fact that memories are effects of what we remember, is what, on a causal theory of time order, makes the flow of time seem to take us forward into the future rather than back into the past. (Mellor 1998, 123)

There is no explanation, however, as to why we feel time to pass in the direction of the *accumulation* of memories, rather than the *dissipation* thereof. It is conceivable, after all—especially if the passage of time were merely a matter of experience—that I might feel the distance lessening between my present and my most distant memory, or that I might experience a continuous reduction of memories and knowledge. It is even conceivable that I might have

“memories” of the future.²¹ Similarly, there seems no reason to think that Hartle’s IGUS might not experience the flow of time to be occurring in the direction of later to earlier sets of information, rather than the other way around. The labelling of some information “new” and some “old,” after all, merely presupposes this directionality.

Nonetheless, I suspect that the illusion defence may be more promising than the false-report defence. The philosophical literature on time is becoming increasingly informed by the empirical sciences, appealing more and more to psychological and neuroscientific research to bolster views of temporal consciousness that were proposed long ago by the likes of Hegel and Kant. These fields are likely to provide the resources necessary for B-theorists to build working accounts of how the feeling of passage may arise in a passage-less world. Paul (2010), for example, draws on the phenomenon of *apparent motion* to offer her account of how a succession of perceptions can, in fact, yield a perception of succession. Apparent motion occurs, for example, when a subject is presented with two dots flashing successively at a certain speed at opposite sides of a computer screen, and reports seeing a single dot, moving back and forth across the intermediary space (Paul 2010, 111). At least under certain conditions, then, a series of static inputs can generate the illusion of dynamic movement, much like fast-moving filmstrip:

²¹ William H. Newton-Smith (1980), for example, devises a thought experiment in which humans experience what he calls “mories,” impressions which “provide us with non-inferential knowledge of the future with the same general reliability that our memory impressions currently provide about the past” (Newton-Smith 1980, 207).

Our brain then receives and interprets these inputs, representing certain types of constancy as persistence and successive contrasting properties as changes that have the animated, flowing character of our ordinary experience as of change. (Paul 2010, 113)

Paul argues that something similar is occurring when we perceive passage; when a subject has a single, momentary experience of passage, it is the result of a neural state that has been causally affected in a certain way by previous neural states. A single stage of one's brain, then, experiences the illusion of passage, "as the causal effect of prior stages on (this stage of) one's brain" (Paul 2010, 114). This allows the B-theorist to overcome the objection that a succession of perceptions does not a perception of succession make:

The reductionist can use the experimental facts involving apparent motion, apparent change and apparent persistence to argue that, *even though all she endorses is the existence of a static universe of a series of stages*, this is sufficient for the brain to produce the illusion of motion and flow involved in the experience as of change. (Paul 2010, 115, emphasis mine)

Drawing on the experimental results of certain empirical sciences, then, may very well open up new ground for B-theorists to account for the illusion of presence or passage, or both. There may be good reasons in the end, for instance, to suppose that we experience time moving in a particular direction, even if there is no objective temporal passage. These reasons, however,

being provided by experiments in neuroscience, psychology, and other empirical sciences, are not philosophical in the traditional sense; they are not the usual *a priori*, armchair-type endeavours taken on, for instance, by the likes of Hume or Descartes. While philosophers are waiting for the empirical evidence to come in, however, I believe that there is an alternative defence that the B-theorist can employ. It is this defence that I take up in the next section.

3 Experience and the A-theory of Time

As stated above, I believe there to be an alternative B-theoretic defence against PA that is distinct from both the false-report defence and the illusion defence. This defence does not involve denying that we experience both presence and passage as a part of the phenomenology of time, nor does it attempt to account for these experiences by explaining how such illusions might arise using only B-theoretic resources. Rather, this defence argues that the evidence from the phenomenological data surrounding time is *equally problematic for the A-theory of time*. Importantly, this is not to say that such evidence actually supports the B-theory of time (as argued, e.g., by C. Williams 1992 and Prosser 2007), but simply that the evidence from experience does not decide the debate *either way*. If this is correct, then the burden of proof does not lie with either theory in particular—not, at least, with respect to the phenomenological evidence. The burden of proof, then, need not lie with the B-theorist, despite the fact that this is what the literature often suggests. I call this defence the *tu-quoque defence*.²²

²² Much gratitude to Rob Stainton for suggesting this name.

Coming at the point another way, recall PA:

(P1) The A-theory of time coheres with the phenomenology of presence and passage.

(P2) The B-theory of time does not cohere with the phenomenology of presence and passage.

(P3) If the A-theory coheres with the phenomenology of presence and passage, and the B-theory does not, then the A-theory is superior to the B-theory.

(C) The A-theory of time is superior to the B-theory of time

(*modus ponens*: P1, P2, and P3).

I claimed earlier that the false-report defence against PA is one that denies (P2). This defence argues that the phenomenological data does not, in fact, contradict the B-theory of time, because the phenomenological data is, in fact, not what people generally think it is. Presence and passage, it is argued, are not a part of our phenomenological experience of time (and so the B-theory need not cohere with them). The illusion defence, on the other hand, denies (P3). This defence emphasizes that our phenomenological experience of time—including presence and passage—is quite plausibly an illusion that arises in a B-theoretic world. If this is the case, then there is no reason to suppose that the theory which coheres with that phenomenological data is superior to the one that does not, since a lack of such agreement does not invalidate a theory.

Importantly, neither of these defences attempt to discredit (P1)—that the A-theory of time coheres with our phenomenological experience of time. If this premise were shown to be false, it would not matter whether (P2) or (P3) were true; the conclusion would not follow regardless. This is essentially the *tu-quoque* defence.

The A-theory of time is a family of metaphysical theories about time, rather than a single theory. Whether or not it coheres with experience, then, is not a straightforward matter. Presentism, for example, may account perfectly well for our experience of presence, but it is not immediately obvious how it accounts for the feeling of passage. Moving spotlight theories, on the other hand, seem to provide an objective basis for the feeling of passage, but do not account for the experience of presence so easily. This general observation about the high degree of variability across A-theories of time, I believe, supports my overarching conclusion that the A-theory does not cohere with the phenomenological data any more than the B-theory does so. Certainly, it may be the case that a certain metaphysical theory of reality matches up with certain phenomenological data; however, if the metaphysical theory in question is, in fact, a multitude of very different—and mutually exclusive—pictures of reality, then whether or not it “matches up” with reality is itself a complicated question. As Dainton (2011) notes, “given this divergence of opinion in the [A-theorist] camp, there is no *one* way for the passage of time to generate (or contribute to) the appearance of passage in consciousness” (392). The claim that the A-theory, broadly construed, simply “coheres with experience,” while the B-theory does not, is therefore already suspect.

In what follows, moreover, I consider the most common variants of the A-theory of time and argue that each of them fails, in some significant way, to match up with the phenomenological data. Even assuming the general methodological principle that compatibility with experience ought to be preferred in any metaphysical debate, then, no advantage is had by either the B-theory *or* the A-theory of time on this basis.

3.1 The A-theory and Presence

As explained in section 2.2, one of the elements of experience that must be accounted for by a theory of time is presence—that is, the experience of being confined to the present. Also explained in section 2.2 is Balashov’s analysis of presence, which consists also of presence*, exclusion, and occurrence. Following Balashov’s lead, I take presence to involve (at the very least) the following three elements:

*Presence**: the feeling that some experience—namely, *this one*—occurs in the (objective) present.

Exclusion: the feeling that it does so to the exclusion of its predecessors and successors.

Occurrence: the feeling that, in addition to this, it occurs *simpliciter*.

I now pose the following question: How does the A-theory of time serve to account for this multi-faceted experience of presence (as the literature supposes that it does)? I propose that, in fact, it does not. In this section, I will first argue that non-presentist A-theories of time fail to account for presence. Although presentism seems to account for presence, I argue that it fails to

account for a fourth element of presence that Balashov has failed to recognize—an element of experience that I here call *proximity*.

Bourne (2006) has already given a convincing argument to the effect that no version of the A-theory, apart from presentism, accounts for the most basic element of presence—that is, presence*, or that some experience is felt to occur in the objective present. He begins the argument by introducing what he calls the “Present Problem”:

How [can *we*] know that we are present and not past (or future)[?]

Given that we do know we are present, and that it is absurd to doubt it,

any adequate theory of time must find a way to guarantee such

knowledge. (Bourne 2006, 21, original emphasis)

The reason that so many A-theorists cannot provide such a guarantee, says Bourne, is because they “hold that more than one time is real, yet one among them is privileged, namely the present” (*ibid.*). Any such theorist of time must be able to explain why we always seem to find ourselves at one of these special, privileged moments, rather than at another.

A-theories vary wildly in their ontological picture of time. According to the moving spotlight view of time, for example, passage is the movement of the present across an otherwise B-theoretic spacetime, “somewhat like the spot of light from a policeman’s bull’s-eye traversing the fronts of the houses in a street” (Broad 1923, 59). Arthur Prior (1962), on the other hand, avoids committing himself to the existence of any times other than the present by identifying

passage with the present's ever-changing set of true propositions (a form of presentism). There is also an array of ontologically intermediary views that allow for the existence of times other than the present. According to growing blockers like Michael Tooley (1997), only the past and present exist, and the passage of time is the continuous growth of the stock of existing times which composes the past. Storrs McCall (1994), by contrast, espouses the branching tree view, according to which the future exists as a myriad of branching possibilities, and passage is simply their collapsing into one actuality which then becomes past. Some A-theorists have espoused views upon which the ontology of time is even more complex; according to degree presentist Quentin Smith (2002), for example, past and future times can be more or less real, depending on their proximity to the present. There is very little consensus among A-theorists, then, as to the ontological nature of times outside of the present.

For all but the presentist, then, how can it be guaranteed that we are located at the objective present, and not at some time in the past or future? As you had your breakfast this morning, you certainly believed your experience to be taking place in the present. That very same experience, however, is now in the past, and so that belief is now false. That belief, in fact, was true for only a fleeting instant—that is, when the present passed it by—somewhat like the actual time “passing by” the time indicated on the face of Gettier's stopped clock. According to David Braddon-Mitchell (2004), this “should lead us to wonder how we know that the current moment is in the present ... [that is,] that the objective present is not located at any particular point in some volume of space-time that may lie in the future direction from us” (200). In fact, given the fleetingness of the present, and the immensity of the past (and future, according to the

growing block and shrinking tree theorists), we ought to be reasonably certain that our experiences are *not* taking place in the present. This conclusion, however, contradicts one of the most central aspects of our experience in time—namely, that we are always in the present.

This sort of reasoning leads some philosophers to maintain that conscious experience is somehow confined to the objective present. Peter Forrest (2004), for example, supplements the typical growing block model with the added hypothesis that although the past is “real,” it is “lifeless . . . and lacking in sentience” (358). This is meant to ensure that, although other times may be just as real as the present, there are no conscious experiences happening at those other times. Experience necessarily takes place in the present, then, once again adhering to our experience and intuitions about time. Our best current physical theories, however, reject objective simultaneity and so pose a serious problem for this view; what is in the past according to one frame of reference may be in the present, or future, for another. This is often thought to be a problem for all versions of the A-theory of time in general.²³ With respect to Forrest’s moving consciousness view in particular, however, this problem has a special consequence:

If objective presentness is required for consciousness, then unless we know which the preferred frame of reference is, we do not even know

²³ In fact, this is a potential problem even for the B-theory of time. The relativity of simultaneity entails that even B-theoretic relations such as earlier-than or later-than are not objective, since the ordering of events in time (and not just their *pastness*, *presentness*, or *futurity*) depends on an observer’s frame of reference (thanks to John Thorp for this point). I do not address this problem in this thesis.

whether our apparent colleagues are Zombies; for perhaps the preferred frame is one in which none of these colleagues are simultaneous with me. (Braddon-Mitchell 2004, 202)

Certainly, the implication of this view that some of our peers may be mindless philosophical Zombies is just as abhorrent to ordinary experience as is the B-theory's implication that presence and passage are part of a widespread cognitive illusion.

If the A-theory is able to account for our experience of presence at all, then, it can only do so by entailing that some *other* element of experience is an equally puzzling illusion. Accounting for presence*—that is, that experience always occurs in the objective present—is considered relatively easy by both Bourne and Balashov. The “hard” problem of presence is occurrence: Why do some experiences seem to be occurring *simpliciter*, while others are not? What is it that breaks the “parity of our experiences” so that I am experiencing this time, rather than another? The above-mentioned A-theories of time—the moving spotlight, growing block, and branching tree views of time—all attempt to break this parity by positing an objective distinguishability about the present. For the moving spotlight theorist, the present simply exhibits *presentness*. For the growing block theorist, only the present moment has the property of being the newest moment, situated on the brink of existence. For the branching tree theorist, the present is that moment where the trunk of the past begins to split into the multitude of branches of the future. These special features, which only the present has, serve to distinguish it from all other moments so that there is a phenomenological disparity among present and non-present

experiences. Oddly enough, however, all of these theories fail to account for the *easy* problem of presence, as articulated by Bourne. As Bourne says, for a popular theory of time to fail to account for this feature of our experience would be no less than a “scandal” (Bourne 2006, 21).

Bourne also insists, however, that there is one version of the A-theory that does adequately account for presence. Since presentism posits no times aside from the present, this theory precludes the possibility that experiences may be happening at any other time, and so evades the kind of objection that Bourne and Braddon-Mitchell raise. Even this account does not capture all features of temporal experience, however. Smith’s (2002) degree presentism, for example, is motivated in large part by an element of experience which presentism by itself cannot account for, and which Balashov fails to recognize in his analysis:

It seems intuitively obvious that what I am doing right now is more real than what I did just one second ago, and it seems intuitively obvious that what I did just one second ago is more real than what I did forty years ago. And yet, remarkably, every philosopher of time today ... denies this obvious fact about reality. What went wrong? How could philosophers get so far away from what is *the most experientially evident fact about reality*? (Smith 2002, 119, emphasis mine)

This experiential fact, which I call *proximity*, is not accounted for by the presentist since, according to presentism, one minute ago is just as unreal as forty years ago. All of the non-

presentist A-theories of time described above, in fact, fail in this respect. Degree presentism, on the other hand, allows for varying degrees of reality depending on proximity to the present, which is the “most real,” and so at least attempts to account for the experience of proximity. Even if presentism is able to account for some elements of presence, then, it cannot account for them all.

Even Smith’s degree presentism, however, cannot account for all of these aspects of presence; like the moving spotlight, shrinking tree, and glowing block models, it cannot account for presence*—that is, the fact that our experiences take place in the objective present. Bourne notes that degree presentism “does not count as a genuine variety of presentism anyway, despite its name” (Bourne 2006, 24). This is because degree presentism *does* posit the existence of times other than the present; what makes it different from other non-presentist theories is that these other times are “less real” than the present. Nonetheless, Bourne’s original objection can be raised against this theory:

Consider those people who have a shady existence until they gain the full-blown property of being [objectively present]; how do we know that we are not in this impoverished state of having shady existence, either as [future] people who are yet to be promoted to such a privileged position, or as those [past] people with whom the full-blown [objective present] has lost favour? (Bourne 2006, 25)

The implication here is that, on this theory, we cannot know that our experiences are taking place in the objective present, and so degree presentism does not solve the Present Problem.

Here is what I hope to have established in this section: presence, which is an essential element of our phenomenological experience of time, is itself broken down into (at least) these four sub-elements:

*Presence**: the feeling that some experience—namely, *this one*—occurs in the (objective) present.

Exclusion: the feeling that it does so to the exclusion of its predecessors and successors.

Occurrence: the feeling that, in addition to this, it occurs *simpliciter*.

Proximity: the feeling that some experiences feel less real than others (e.g., depending on how recently they occurred).

Furthermore, I identified five broad categories of A-theories of time (those that are most common by far in the literature): the moving spotlight view, the growing block view, the branching tree view, presentism, and degree presentism. I argued that all non-presentist versions of the A-theory (including degree presentism) fail to account for presence*, because they each posit the existence of times other than the present. All theories, however (except for degree presentism), fail to account for proximity, because they do not posit varying degrees of reality. None of these A-theoretic views of time, then, can account fully for the experience of presence.

It might be objected that some of these views (or combinations thereof) can at least account for *more* elements of presence than others can. A moving spotlight theorist might, for example, posit that moments or experiences become “less real” the further they are from the present. Such a theory may purport to account for exclusion, occurrence *and* proximity, even if more work needs to be done in order to account for presence*. Keep in mind, however, that the traditional B-theory of time accounts for at least as much; it is able to account for presence*, exclusion, and occurrence (according to Balashov, at least), even if it cannot immediately account for proximity. There is no reason, then, to prefer the A-theory of time (or any of its variants) over the B-theory of time on the basis that the former can account for presence while the latter cannot. This, in part, undermines (P1) of PA; the A-theory does not cohere with our phenomenological experience of time—at least not where presence is concerned.

3.2 The A-theory and Passage

The next element of our phenomenological experience of time that any adequate theory of time ought to account for is passage. As was pointed out in section 2.2.1, the usual attempts to articulate what passage is like are rife with metaphors and imageries. Not only is there no general consensus about what passage might *be*, but philosophers seem unable to agree even about what passage *feels like*.

Claudia Hammond (2012)—in *Time Warped: Unlocking the Mysteries of Time Perception*, a sort of pop-science account of the perception of time—appeals to a simple thought experiment to make this point. Consider the following sentence:

Wednesday's meeting has been moved forward two days.

Does this mean that the meeting, which was originally on Wednesday, is now scheduled for Monday, or Friday? Hammond stresses that there is no correct answer to this question, and that intuitions will vary depending on how individuals perceive the passage of time. According to Hammond, those of us who answer instinctively that the meeting has been moved to Monday employ a "time-moving metaphor": these people perceive time itself as moving, "like a constant conveyor belt where the future comes towards you" (Hammond 2012, 134). Those who tend to answer that the meeting has been moved to Friday, on the other hand, are using an "ego-moving metaphor": these people have a sense that they "are actively moving along a time-line towards the future" (*ibid.*). As Hammond notes, this is "the difference between thinking that we're fast approaching Christmas or that Christmas is coming up fast" (*ibid.*).

Although these are familiar ways of thinking about time—that is, thinking of yourself as having "passed" a deadline, or else that the deadline has "passed" you—it is puzzling to imagine any kind of movement that is independent from space. As D.C. Williams says, "true motion ... is motion at once in time and space. Nothing can 'move' in time alone any more than in space alone, and time itself cannot 'move' any more than space itself" (D.C. Williams 1951, 463). How is it, then, that such a notion can be so intuitively appealing and familiar, and yet, at the very same time, so incomprehensible?

Now, the most remarkable feature of all this is that while the modes of speech and thought which enshrine the idea of passage are universal

and perhaps ineradicable, the instant one thinks about them one feels uneasy, and the most laborious effort cannot construct an intelligible theory which admits the literal truth of any of them. (D.C. Williams 1951, 462)

A-theorists, however, seem to think that there *is* a theory that is both intelligible and that admits the literal passage of time, in accordance with our familiar modes of speech and thought—namely, the A-theory of time.

As should be obvious by now, I am skeptical that the A-theory can, in fact, accomplish this impressive feat. This is not only because A-theorists vary so widely from one another with respect to their metaphysical picture of time and passage in the first place, nor is it merely because the very notions that the A-theory of time is meant to account for are inherently problematic. Rather, the A-theory fails in this respect because, even with its posited objective temporal passage, it does not necessarily account for the phenomenology of passage—that is, what D.C. Williams calls the “whoosh of process” and its direction. Dainton (2011) shares my suspicion:

How plausible is it to suppose that passage contributes to, or is responsible for, the dynamic characteristics we find in the contents of our [phenomenological] experience? Proponents of passage might be inclined to argue thus: “Since passage is found in reality, and passage is also found in our experience, isn’t it just obvious that the two are

linked? The latter is simply a reflection of the former!” But this is far too quick. (Dainton 2011, 413)

First, the phenomenological “whoosh” of passage must be examined. The first argument to the effect that this quality of our experience of time is not the result of an objective passage is reminiscent of Bourne’s argument regarding the “Present Problem.” Similarly, this argument—call it the “Passage Problem”—applies to all non-presentist A-theories of time. Since these models of time posit the existence of times outside of the present, they seem to entail that conscious experiences are happening at these other times. However, since the mechanism of passage is presumably found only at the objective present—whether it is something like the moving of a spotlight, the growing edge of a block, or the branching of a tree—such objective passage cannot be responsible for the “whoosh” of experiences that may be occurring in the past or future.

As noted earlier, A-theorists such as Forrest (2004) block these kinds of objections by maintaining that conscious experience is possible only at the objective present. If this were the case, it might seem plausible that objective passage somehow “injects a degree of dynamism or animation” into our phenomenal contents as it moves, grows, or causes future branches to disappear. Since, according to these kinds of theories, consciousness only occurs at the objective present—that is, the very point at which objective passage is happening—there may be reason to suppose that this A-theoretic process of passage is responsible for these dynamic, “whoosh”-like phenomenal contents.

Dainton refers to this as the “strong passage-dependence thesis,” and characterizes it as the claim that “passage contributes to, or is responsible for, the dynamic characteristics we find in the contents of our experience” (Dainton 2011, 413). Dainton points out—as I have done, above—that the first *prima facie* problem with this claim is the significant variability among theories about time that posit passage: “Are we to suppose they all leave the same mark on experience?” (*ibid.*). The primary argument against the strong passage-dependence thesis, however, is that each of these kinds of A-theories fails to provide a plausible explanation for how objective passage can be the cause of our phenomenal experience of time. Dainton maintains, as I do, that “the claim that passage can contribute *anything* to the explanation of dynamic phenomenal contents must cross or circumvent a number of significant hurdles” (Dainton 2011, 413, original emphasis).

The first argument to this effect deals with presentism and the growing block theory of passage, both of which take passage to be a matter of coming into, or going out of existence (or both). For the presentist, moments of time come into existence for a brief duration, only to vanish just as another newer moment comes into existence. For the growing blocker, moments come into existence in the same manner, although they never cease to exist, but rather remain in the fixed past. Dainton is adamant that this mechanism of “absolute becoming” cannot be responsible for the dynamic “whoosh”-like contents of our phenomenal experience. The reason is that such a process cannot affect the “*intrinsic or qualitative*” characteristics of the objects and events which undergo these processes (Dainton 2011, 413, original emphasis). Dainton asks the reader to consider a particular event (say, an experience), E, which undergoes a process of

absolute becoming in a dynamic universe, U. We can just as easily imagine a qualitatively identical event, E*, occurring at a time in a B-theoretic block universe, U*. Since the only difference between E and E* is that the former comes into existence in stages while the latter does not, there can be no *intrinsic* difference between these stages, and “this surely means that there is no phenomenologically discernible difference between them either” (Dainton 2011, 410).²⁴

Other A-theories, however, take passage to be something more than merely coming into (or going out of) existence: for the moving spotlight theorist, it is a matter of presentness “sweeping” across the block universe; for the branching tree theorist, it is the continuous attrition of future branches; and for the degree presentist, it is a matter of events successively obtaining more and more (and then less and less) reality. It may seem plausible that these sorts of passage might be responsible for the “whoosh” of experience: “think of the turbulence produced by dragging a plank of wood through a placid pool of water—might not the movement of the present create something analogous within the confines of a specious present?” (Dainton 2011, 415).

Dainton argues convincingly that there are serious difficulties with this view as well. The first point of order, for the A-theorist, is to say something about what the “confines of a specious present” are like: Is the present an infinitesimally brief slice of time, or does it have a finite

²⁴ According to Dainton, this applies equally to both reductionist and extensional approaches to temporal perception.

duration? For the A-theorist who maintains the former, says Dainton, the objective passage of time cannot possibly be responsible for the “whoosh” of experience—at least, not as long as it is contained within any single specious present.²⁵ Since such a specious present is entirely momentary (and so cannot be divided into smaller durations), when it is present, it is present in its entirety. There is no “room,” so to speak, within such a specious present, for the proposed “turbulence” generated by passage. Using passage to generate a sense of movement from within an infinitesimally brief moment would be something like attempting to generate a colour gradient on a screen that has only one pixel; the medium is simply not complex enough. A moving present, then, may bestow the special property of *presentness* upon individual specious presents in succession, but, according to Dainton, it makes “no essential contribution” to the dynamic content within those specious presents.

If, on the other hand, the specious present has some finite duration, then “there is more scope for the motion of the present to stir things up, so to speak, and thus contribute to the dynamic character of phenomenal contents” (Dainton 2011, 416). Still, says Dainton, this view is implausible. He argues this by first making the innocuous claim that the specious present is “a temporal spread of content which all seems fully present (in the phenomenal sense...)” (*ibid.*). It follows that this

²⁵ Dainton entertains the possibility that passage works not *within* specious presents, but *on* them—that is, the “whoosh” of our experience results from the linking together of multiple specious presents, each of which do not contain any “whoosh” by themselves. I do not here have the time or space to consider this thesis (the “weak passage-dependence thesis”). For a convincing argument against this thesis, see Dainton 2011.

conception of the specious present ... is, in effect, indistinguishable from that of the orthodox [B-theorist]: a temporally extended spread of content, all of whose parts possess maximal phenomenal presence. If so, it seems that switching to [an A-theoretic] conception of time is adding nothing to our understanding of how dynamic phenomenal content is possible. (*ibid.*)

In other words, the challenge that was originally posed to the B-theorist—*How can we get an experience of dynamicism and passage from a set of contiguous, equally-existing moments, spread out in time?*—can now be posed equally to the A-theorist. The original motivation for the A-theory, as argued earlier in this chapter, is that the B-theory’s block universe cannot account for how a set of contiguous, ontologically and phenomenally equal moments (or, if you like, experiences or events), with nothing to distinguish the privileged present from the past and the future, could possibly give rise to the phenomenal experiences of presence and passage, which seem to be reflective of a dynamic, growing, or ever-changing universe. The specious present, however, could fare no better in this regard: the specious present is, after all, a (much smaller) set of contiguous, ontologically and phenomenally equal moments, with nothing in it to distinguish a (even briefer) privileged present. It remains to be seen how it is that passage could manage to “stir up” the “whoosh” of our phenomenal contents within a single specious present.

It might be objected that the above argument misses an important point. For the A-theorist, perhaps the finite specious present is not simply a block universe in miniature, precisely because it features some sort of objective passage which passes through it in a particular direction. That is, it is not true that there is nothing within a specious present to “distinguish a (even briefer) privileged present;” there is, rather, a “present within a (specious present),” so to speak, that passes from one “end” to the other, stirring up the phenomenal “whoosh” of experience as it goes. This is the difference, perhaps, between the B-theorist’s block universe and the specious present of the A-theorist. A specious present, however, is, by definition, the briefest duration of time in which a subject may have an experience. The claim that a subject’s phenomenological experience could be influenced by something *briefer* than any specious present, then, is—at the very least—dubious.

As for the direction of passage, this is thought to be easily accounted for by the A-theory. According to the A-theory, the direction of passage *just is* something that occurs in a particular direction: *presentness* sweeps from the past into the future; the universe grows rather than shrinks; and the branches of possible futures are cut off as the present moves forward (rather than, say, the present being pushed back into the past by the multiplying of future branches). This, according to the A-theorist, is why we all agree on the direction in which time seems to be passing.

Surely, however, more needs to be said about the perceived direction of time, even by the A-theorist. As noted above, some of us perceive time to be moving past us, while others perceive

themselves to be moving past time—that is, some of us employ a time-moving metaphor, while others employ an ego-moving one. If objective passage is, in fact, moving in one particular direction, then one might expect that this would generate different experiences of direction among perceivers employing different metaphors. For example, if the present were moving in one direction (e.g., towards the future) relative to someone who employs an ego-moving metaphor, we might expect her to report that she feels herself to be moving in the opposite direction (i.e., towards the past), much like someone in a parked car who mistakes the forward motion of the car next to her for her own backward motion. Yet, as the A-theorist is so quick to point out, this sort of experience is never reported.

The A-theorist, of course, may very well be able to overcome these sorts of *prima facie* difficulties; the point here, however, is simply that there do exist such *prima facie* difficulties for the A-theorist to overcome. The common claim, then, that the phenomenological experience of time lends support to the A-theory, and so clearly places the burden of proof on the B-theory, is thus false. Dainton once again shares my sentiments in concluding that “when it comes to immediate experience, the [B-theorist] has less to fear than is sometimes thought” (Dainton, 2011, 418).

4 Conclusion

In section 2.2, I argued that our phenomenological experience of time involves at least two important elements: presence, or the experiential fact that we always find ourselves at the objective present (presence*), to the exclusion of all other possible locations in time (exclusion),

and that this present is where things are occurring *simpliciter* (occurrence); and passage, or the feeling that time involves some sort of flow, progression, or movement in a particular direction (i.e., towards the future). It was also shown how such experiences are often thought to prove the superiority of the A-theory over the B-theory, thereby placing a heavy burden of proof on the latter.

While the B-theorist might employ a number of responses to this objection—for example, the false-report defence, or the illusion defence—I argued in section 2.3 that the most promising defence against this kind of attack is the tu-quoque defence, which challenges this very claim in the first place. I have attempted to do just this by arguing that the A-theory of time in fact faces significant difficulties in accounting for our phenomenological experience of time, including both presence and passage.

Importantly, this is not to argue that the A-theory of time is false. As noted earlier, the A-theory of time may, in the end, be able to rise above the objections outlined in section 2.3. The goal of this chapter is rather to bring attention to the fact that it is not only the B-theory of time that is presented with a challenge in the face of the phenomenological data. In arguing this, I hope to have shown that the A-theory and the B-theory of time are, at least with respect to the phenomenology of time, on equal footing. This is an important part of the larger goal of this thesis, which is to show that our ordinary experience of time—of which the phenomenological experience of time is a part—does not, in general, favour either theory of time over the other.

5 Works Cited

- Balashov, Yuri. "Times of our Lives: Negotiating the Presence of Experience." *American Philosophical Quarterly* 42, no. 4 (October 2005), 295–309.
- Bourne, Craig. *A Future for Presentism*. Oxford: Oxford University Press, 2006.
- Braddon-Mitchell, David. "How do we know it is now now?" *Analysis* 64, no. 3 (July 2004), 199–203.
- Broad, C.D. *Scientific Thought*. London: Routledge, 1923.
- Callender, Craig, ed. *The Oxford Handbook of the Philosophy of Time*. New York: Oxford University Press, 2011.
- Dainton, Barry. *Time and Space*, 2nd ed. Montreal: McGill-Queen's University Press, 2010.
- . "Time, Passage, and Immediate Experience," In *The Oxford Handbook of the Philosophy of Time*, ed. Craig Callender. New York: Oxford University Press, 2011.
- Deng, Natalja. "'Beyond A- and B-Time' Reconsidered," *Philosophia* 38, no. 4 (December 2010), 741–53.
- Forrest, Peter. "The Real but Dead Past: A Reply to Braddon-Mitchell," *Analysis* 64, no. 4 (October 2004), 358–62.
- Hammond, Claudia. *Time Warped: Unlocking the Mysteries of Time Perception*. Toronto: House of Anansi Press, 2012.
- Hartle, James. "The Physics of 'Now,'" *American Journal of Physics* 73 (2005), 101–109.
- Hoerl, Christophe. "A Succession of Feelings, in and of Itself, is Not a Feeling of Succession," *Mind* 122, no. 486 (April 2013), 373–417.

James, William. *Principles of Psychology*. Cambridge, MA: Harvard University Press, 1980/1981.

Kaplan, David. "Demonstratives," in *Themes from Kaplan*, eds. Joseph Almog, John Perry, and Howard Wettstein. Oxford: Oxford University Press, 1977.

Le Poidevin, Robin. "The Experience and Perception of Time," *The Stanford Encyclopedia of Philosophy* online, 2011 Fall ed., ed. Edward N. Zalta.
<<http://plato.stanford.edu/archives/fall2011/entries/time-experience/>>

Locke, John. *An Essay Concerning Human Understanding*, ed. P.H. Nidditch. Oxford: Oxford University Press, 1975/1689.

Maudlin, Tim. *The Metaphysics within Physics*. Oxford: Oxford University Press, 2007.

Mellor, D.H. *Real Time*. New York: Cambridge University Press, 1981.

———. *Real Time II*. New York: Routledge, 1998.

McCall, Storrs. *A Model of the Universe*. Oxford: Clarendon Press, 1994.

McTaggart, J.M.E. "The Unreality of Time," *Mind* 17, no. 68 (October 1908), 457–74.

Newton-Smith, William H. *The Structure of Time*. London: Routledge & Kegan Paul, 1980.

Oaklander, Nathan L. *Temporal Relations and Temporal Becoming: A Defence of a Russellian Theory of Time*. Lanham, MD: University Press of America, 1984.

———. *The Ontology of Time*. Amherst, NY: Prometheus Books, 2004.

———. "A-, B-, and R-Theories of Time: A Debate," in *The Future of the Philosophy of Time*, ed. Adrian Bardon. New York: Routledge, 2012.

Paul, L.A. "Temporal Experience," *Journal of Philosophy* 107, no. 7 (July 2010), 333–59.

Parsons, Josh. "A Phenomenological Argument for Stage Theory," dated July 10, 2013, forthcoming in *Analysis*. Retrieved from Parson's personal website.
<http://www.joshparsons.net/papers/stage-theory/stage-theory.pdf>

Price, Huw. *Time's Arrow and Archimedes' Point: New Directions for the Physics of Time*. New York: Oxford University Press, 1997.

Prior, Arthur. "Changes in Events and Changes in Things." The Lindley Lecture, University of Kansas, 1962. Published in *Papers on Tense and Time*. New York: Oxford University of Press, 2003.

Prosser, Simon. "Could we experience the passage of time?" *Ratio* 20, no. 1 (2007), 75–90.

Schlesinger, George. *Aspects of Time*. Indianapolis: Hackett, 1980.

———. "How Time Flies," *Mind* 91, no. 364 (October 1982), 501–23.

Smart, J.J.C. "Metaphysical Illusions," *Australasian Journal of Philosophy* 84, no. 2 (June 2006), 167–75.

Smith, Quentin. "Time and Degrees of Existence: A Theory of Degree Presentism," in *Time, Reality and Experience*, ed. Craig Callender. Cambridge: Cambridge University Press, 2002.

Tooley, Michael. *Time, Tense, and Causation*. Oxford: Oxford University Press, 1997.

Wasserman, Ryan. "Material Constitution," *The Stanford Encyclopedia of Philosophy* online, 2014 Summer ed., ed. Edward N. Zalta.
 <<http://plato.stanford.edu/archives/sum2014/entries/material-constitution/>>

Weyl, Hermann. *Philosophy of Mathematics and Natural Science*. Princeton: Princeton University Press, 1949.

Williams, Clifford. "The Phenomenology of B-Time," *Southern Journal of Philosophy* 30, no. 2 (Summer 1992), 123–137.

———. "A Bergsonian Approach to A- and B-Time," *Philosophy* 73, no. 285 (July 1998), 379–93.

Williams, D.C. "The Myth of Passage," *The Journal of Philosophy* 48, no. 15 (1951), 457–72.

Chapter 3

1 Time and Language

The division between the A- and B-theory of time in metaphysics is often taken to be intimately related to another division in the philosophy of language: tensed vs. tenseless semantics. This division corresponds roughly to diverging answers to the following yes-or-no question: *Is it possible to translate a “tensed” sentence into a “tenseless” one?* In other words, can explicit talk of A-theoretic properties such as *pastness*, *presentness*, or *futurity* be analyzed away into talk about more fundamental B-theoretic relations such as earlier-than, simultaneous-with, or later-than? The answer to this question about semantics is often thought to provide insight into the ontological question of whether the A-theoretic distinction between past, present, and future in fact reduces to B-theoretic relations such as earlier-than, later-than, and simultaneous-with.

Language and tense have been so central to the modern A-theory vs. B-theory debate about time that the term “A-theory” is often treated as interchangeable with the term “tensed view of time,” as is “B-theory” with “tenseless view of time.” For those unfamiliar with this debate, it may seem odd to think of time itself as exhibiting properties related to tense, since “tense” generally refers to a grammatical category, and so is applied only to linguistic entities like verbs, sentences, and so on. Nonetheless, even today, it is commonplace for philosophers of

time to talk of time as being tensed or untensed. Influence from the philosophy of language, then, is evidently still thought to be pertinent to the debate about time.

In the next section, I provide a brief synopsis of the recent history behind the notion that the nature of reality itself can be gleaned from facts about natural language. In section 2, I outline the most common form of the A-theorist's argument from language-based premises—as based on the *untranslatability thesis*—and explain how it relates to the time of ordinary experience. In section 2.2, I examine the ways that B-theorists typically respond to such arguments. In section 3, I argue, along with Heather Dyke (2008), that all of these traditional positions, including the B-theoretic responses outlined in section 2.2., concede too much ground to the A-theory of time by tacitly accepting a premise that Dyke calls the *Strong Linguistic Thesis*. I offer support to Dyke's view that the best position available to the B-theorist is one that rejects the Strong Linguistic Thesis and, along with it, the view that there is a relatively straightforward isomorphism between language and reality. All of this is to argue, ultimately, that the B-theory of time is not, in fact, at odds with our everyday speech and thought about time, and so coheres with ordinary experience at least as well as the A-theory of time.

1.1 Historical Background

This occupation with language is not unique to the metaphysical question of time. Twentieth-century philosophy is famous for its “linguistic turn,” a tradition in which philosophers conducted philosophical analysis largely by taking natural-language statements

about the world—especially ones that serve as premises and conclusions in arguments related to central problems of philosophy—and “translated” them into their more precise logical-language counterparts. This process was thought to lead the way to a more precise formulation of such problems, with the result of either making apparent their solutions, or else exposing them as nonsensical pseudo-problems. A foundational idea behind this movement was that the sentences of natural language do not always transparently reflect the nature or structure of the propositions that they express. The true nature of these propositions, furthermore, is what was sought for purposes of philosophical analysis and understanding.

Gottlob Frege, for example, kicked off the linguistic turn by analyzing statements in an entirely new way. Frege’s predecessors made wide use of the Aristotelian subject-predicate model of statements, according to which the statement that someone is immortal, for example, consists of a particular property—say, *mortality*—being attributed to a particular subject—say, Socrates, or the man with the beard, or simply “someone.” Where S is a subject and P is a property, then, the Aristotelian might represent a statement thusly:

S is P.

Frege, however, who was a mathematician, preferred to think of language in terms of functions, with objects, first-order functions, second-order functions, and properties as inputs, and truth-values as outputs. On the Aristotelian model, “Someone is mortal” would be treated as a straightforward subject-predicate statement; on Frege’s model, the same sentence is better represented as follows:

$$f(P) = [\text{true}]$$

Whether the function yields true or false depends, of course, on certain states of affairs in the world—namely, on whether or not the property of *mortality* actually is (appropriately) instantiated in some case. Using this model, Frege was able to better explain and taxonomize the sorts of inferences that involve these simple statements (see, e.g., Frege 1879/1967, 1893).

Bertrand Russell is known for furthering this tradition of unearthing the “true” structure underlying seemingly simple statements (e.g., see Russell 1905, 1919, 1959). Although Frege offers a special treatment for sentences whose apparent structures are quantifiers such as “someone,” sentences with definite subjects, such as “the man with the beard,” are still open for an Aristotelian analysis. Russell insists that even these seemingly simple surface subjects are in fact misleading with respect to their proper logical analysis. One of Russell’s best-known theories argues that sentences whose apparent subjects are definite descriptions—such as his famous example, “The present King of France is bald”—are in fact complex logical structures involving not subjects and predicates, but a conjunction of multiple quantifying statements (Russell 1905). Rather than taking the form of “S is P,” the sentence “The present King of France is bald” takes the following relatively complex structure, where KF stands in for the predicate “is (presently) the King of France” and B stands in for “is bald”:

$$\exists x \{ (KF(x) \ \& \ \forall y [KF(y) \rightarrow y=x]) \ \& \ B(x) \}$$

In plain language, this translation reads something like, “There exists one thing, and at most one thing, that is presently a King of France, and that thing is also bald.” Re-written as such, what was once thought to be the logical subject of the statement—“the present King of France”—is now shown to be a predicate.²⁶ Russell’s Theory of Definite Descriptions was taken to be an improvement on the then-prevailing view that anything that could serve as an apparent subject in any natural-language sentence—including “unicorns,” “golden mountains,” and “present Kings of France”—involved some hazy notion of existence (e.g., see Meinong 1904/1968–1978).

Such analyses led to the popularity of a certain view about the relationship between language and reality. According to this view, some languages are better than others at representing the reality as it “really” is, since the surface structure of those languages better reflect the logical form underlying its sentences. Russell, for example, uses a logical “language” to translate English-language definite descriptions; the former might, according to this view, be superior to the latter, insofar as it more transparently reflects the facts that it aims to represent (i.e., that there *is* a King of France, only *one* King of France, etc.). This is intimately related to a view often called the “picture theory” of language. Ludwig Wittgenstein, for instance, claimed early in his philosophical career that a proposition is a “logical picture of facts” (Wittgenstein 1921), a representational structured set of (linguistic) objects that corresponds to certain some set

²⁶ This is beneficial because there is no longer any apparent reference to non-existent objects, such as the present King of France. Since there is no such King, the sentence is meaningful but straightforwardly false—that is, it is false that “there exists one thing ... that is presently a King of France ...”—in accordance with our intuitions.

of objects that constitutes a certain state of affairs in the world. The proposition, then, is structurally isomorphic to the world in a way that allows us to talk about the world using sentences which express such propositions. Some sentences, according to the picture theorist, are more transparent to the structure of the propositions expressed by them; these sentences are more conducive to philosophical thinking since their syntax more clearly represents what the philosopher aims to scrutinize—that is, the structure of reality.

This way of thinking about the relationship between language and reality has played a critical role in the philosophy of time. A-theorists of the late twentieth century have often constructed arguments for their metaphysical picture of time on the basis of premises that are linguistic in nature. One such premise is what I here refer to as the *untranslatability thesis*, discussed further in the next section. This thesis, about the possibility (or lack thereof) of translating temporal language into “tenseless” language, played a massive role in the philosophy of time until the 1980s, where the so-called “new B-theory of time” gained popularity (see section 2.2). Since then, language has played a smaller role in such debates.²⁷ Nonetheless, it remains commonplace for philosophers to talk of “tensed” and “tenseless” theories of time,

²⁷ For instance, one of the most recently published comprehensive overviews of the philosophy of time—*The Oxford Handbook of the Philosophy of Time* (2011), edited by Craig Callender—features very little on language-related arguments in the debate about time. No index entries are found for “language,” “sentences,” “indexicals,” or “tense,” although the subject of “tenseless propositions” is briefly mentioned on a few pages of a single discussion on future contingents.

indicating that remnants of twentieth-century analytic philosophy’s preoccupation with language are still operating in the metaphysical debate about time.

2 The A-theory’s Argument from Untranslatability

Twentieth-century proponents of the A-theory of time often appeal to a family of language-related arguments to bolster their view that properties of *presentness*, *pastness*, and *futurity* are objective features of the world, and that time does pass. These arguments are inspired by the kind of thinking outlined above in section 1.1; this kind of thinking suggests that the metaphysical nature of reality is reflected in language. These arguments claim that because tensed language must be used in order to adequately describe the world, reality itself must be “tensed” in a corresponding manner. This “tensed” nature of reality, says the A-theorist, is an objective difference between past, present, and future—whether or not there happen to be any observers in the universe to experience it—and the present’s progression, movement, or growth in the direction of the passage of time.²⁸

There are at least two ways in which tense manifests itself in everyday language. Bernard Comrie (1985) makes a distinction between the “grammaticalisation” and the “lexicalisation” of temporal markers in natural language. “The simplest statement of difference,” says Comrie,

²⁸ Strictly speaking, the view that *pastness*, *presentness*, and *futurity* are objective is distinct from the view that the present moves and time passes; for example, one might hold a view in which the present is permanently fixed at a certain date, and no events change with respect to their A-determinations. I know of no one who holds such a view, however; generally, these two views about the objectivity of A-determinations and the passage of time go hand-in-hand.

“would be to say that grammaticalisation refers to integration into the grammatical system of a language, while lexicalisation refers merely to integration into the lexicon of the language, without any necessary repercussions on its grammatical structure” (Comrie 1985, 10). An example of grammatical tense, then, is the use of a past-tense verb to indicate that an action occurred in the past; in this case, the verb is inflected in accordance with the grammatical rules of that language. This might involve a necessary morphological alteration, such as adding the suffix “-ed” to the infinitive form of an English verb, or it may involve the addition of an auxiliary verb, such as adding the English auxiliary “have” before a past participle (in accordance with its own morphological rules) in order to indicate that an event culminated in the past and has present consequences (i.e., present perfect tense). The “clearest instances” of grammatical tense, says Comrie, are both obligatory and morphologically bound. Lexical tense, in contrast, is in general neither obligatory nor bound by morphology. The English lexical item “tomorrow,” for instance, is a temporal marker that need not be inflected when added to a complete sentence (e.g., “He goes home,” vs. “He goes home tomorrow.”). Lexical tense, in other words, is a matter of using temporal indexicals, such as “now,” “yesterday,” “last year,” or “300 years from now.”

Both grammatical and lexical tense are at the heart of the A-theorist’s *untranslatability thesis*. Simply put, the untranslatability thesis is the claim that sentences employing tense—either lexical or grammatical—cannot be translated into tenseless sentences without loss of semantic meaning. In other words, no tenseless sentence can be synonymous with a tensed one. In what follows, A-theorists who endorse this thesis (and take it to indicate that time itself is “tensed”)

are referred to as “tensors,” whereas those who challenge this thesis are referred to as “de-tensors.” True de-tensors, however, have become few and far between in recent years, owing to a number of very persuasive arguments supporting the untranslatability thesis.

Take, for example, the following sentence:

(1) My PhD defence is today.

This is a standard tensed sentence featuring a temporal indexical (i.e., “today”). The most obvious way to “de-tense” such a sentence is to replace the temporal indexical—an instance of lexical tense—with explicit mention of the time to which it refers:

(2) My PhD defence is February 6th, 2015.

This method of de-tensing is sometimes called the “date theory” of A-sentences (Smith 1993). According to this strategy, indexicals can be removed and replaced with time-markers that are independent of the distinction between past, present, and future. Note that while (1), if true, is true only for a certain period of time—namely, on the day of the defence—(2), if true, is timelessly true. In other words, while (1) can change with respect to its truth-value, say, being false on February 5th, becoming true on February 6th, and becoming false again on February 7th, (2) never fluctuates in its truth-value.²⁹ It seems that (1) lends itself well to the A-theoretic picture of the universe, in which “today” picks out an objectively metaphysically distinct time,

²⁹ It might be argued that this sentence only becomes true once the defence actually occurs, but I put aside this sort of argument for present purposes, since nothing hangs on this point.

whereas (2) fits well with the B-theorist's block universe, in which all temporal facts are timeless and "static."

Tensors such as Quentin Smith (1993) and Peter Ludlow (1999), however, are quick to point out that (2) is not an adequate translation of (1). One may, for example, acknowledge the truth of (2) without thereby acknowledging the truth of (1)—for example, someone who falsely believes that it is February 5th and not February 6th. Consider the unfortunate PhD student who finds herself in this precarious situation; she may have believed (2) to be true for the past several months, and so ruminating on its truth will effect no special behaviour. Coming to realize the truth of (1), however—realizing that February 6th is, in fact, *today*—will no doubt alter her behaviour (and emotional state) immediately and drastically. It is clear, then, that the cognitive import of (1) is not the same as that of (2), and so it seems that these sentences are not truly synonymous. In particular, (2) seems to leave out an important piece of information that is effectively expressed in (1).

There is, however, another potential means of de-tensing such sentences. De-tensors such as Hans Reichenbach (1947), for instance, endorse the so-called "token-reflexive theory." This theory maintains that tensed sentences such as (1) can be translated into tenseless sentences not by making reference to the relevant date or time, but simply by making reference to the utterance itself. According to this strategy, (1) can be effectively de-tensed by translating it into the following:

(3) My PhD defence is on the same day as this very utterance.

This strategy appears to be more successful than that of the date theory. Consider once again our PhD student who is unfortunately mistaken about today's date. Coming to realize the truth of (3) ought to affect her behaviour and emotional state in precisely the same way that (1) does; recognizing that her PhD defence is simultaneous to her very utterance of (or, perhaps, her thinking of) (3) means that she realizes her PhD defence is *today*.

De-tensors once again persuasively argue that this is not an adequate translation of (1). The first reason is simply that it does not *seem* or *feel* like when we utter (1) we are in fact uttering something like (3). Surely, we think, we are saying something about the time of a certain PhD defence, and not something about a particular utterance or thought being simultaneous with it; in other words, we take ourselves to be talking about the world around us, not doing metalinguistics. Recall Russell's Theory of Descriptions, according to which using a simple definite description such as "the King of France" is in fact tantamount to making a number of claims about what exists and how many of those things exist. This objection from the de-tensor picks up on part of the pre-theoretical understanding of language that would sit uncomfortably with such a theory. This is essentially an argument from intuition.

If this is not persuasive enough, however, the de-tensor has more powerful objections at his disposal. Consider the following:

(4) There is currently no language.

According to the Token-Reflexive Theory, (4) ought to be translated into something like

(5) There is no language at the time of this very utterance.

Clearly, this simple tensed sentence does not lend itself well to this kind of analysis. Since wherever and whenever there is no language, there can be no utterance-tokens, (5) is necessarily false; there can be no utterance at a time during which there is no language. However, (4) appears to be a contingent truth about the world; it could have been the case that language and language-users never became a feature of the universe. If (4) is contingently false, while (5) is necessarily false, then these two sentences cannot be synonymous. The token-reflexive method of translating tensed sentences thus fails (Ludlow 1999).

The untranslatability thesis, then, has yet to meet with any serious objections. For these reasons, along with others, it has been generally accepted by philosophers of language that detensing a tensed sentence necessarily involves at least some loss of meaning. The implications of the untranslatability thesis, however, are commonly thought to extend well beyond the realm of semantics. A-theorists such as Richard Gale (1968), George Schlesinger (1980), and William Lane Craig (2000), along with Smith and Ludlow—among others, no doubt—claim that the untranslatability thesis commits us to a certain metaphysical view of time itself: namely, that the distinction between past, present, and future is an objective feature of reality.

Gale (1968) notes that not only are tensed sentences unable to be translated by tenseless ones, but also that there is a one-way entailment relationship between tensed sentences and their tenseless counterparts. Consider a tensed sentence about two distinct events:

(6) My PhD defence is today and my vacation starts tomorrow.

From this we can infer that the PhD defence takes place earlier than the vacation (or, conversely, that the vacation takes place later than the PhD defence). Note, however, that the reverse entailment does not hold. Knowing that the PhD defence takes place earlier than the vacation does not provide any information as to which event is *today*; simply knowing that the defence is earlier is consistent with the PhD defence taking place, say, two weeks from now, and the vacation starting the day after that. Knowing which event is earlier and which is later does not tell us anything about whether either event lies in the past, the present, or the future. Gale takes this fact to indicate that there is something expressed in the tensed version—some extra piece of information—that is missing from the tenseless one. In other words, if the tenseless sentence is labelled P, then the tensed version would be labelled (P & T), T being some extra piece of information. While it is true that (P&T) entails P, the reverse does not hold. This extra bit of information (T), according to Gale, corresponds to some fact or state of affairs in the world, independent of that which corresponds to P. In the case of tensed and tenseless sentences, then, the fact about the world that fails to find expression in tenseless sentences is presumably the fact of which time is objectively “now” (and consequently, which times are “past” and “future”).

Gale (1962) illustrates this point most memorably with a thought experiment about a man named Joe:

Joe is a scout for a machinegun company. He is strategically stationed so that he can survey the battleground, and when the enemy approaches within 100 yards of their position he must inform the

company so that they can open fire. In order to conserve ammunition and not give their position away, they fire only when the enemy is within a range of 100 yards. (Gale 1962, 55)

Joe has been carrying out his job effectively by using tensed sentences such as,

(7) The enemy is now within 100 yards!

or even simply,

(8) Fire!³⁰

One “fateful day,” however, Joe enters into a philosophical discussion with “a professional philosopher and an avid upholder of the [B-theory] of time.” This philosopher convinces Joe that tensed sentences can be translated into tenseless ones without any loss of meaning, and that this way of speaking is, in fact, superior (philosophically-speaking, at least) to the usual tensed manner of speaking. Amusingly, in an allusion to Prior, Gale adds that

the argument by which he finally convinces Joe of the superiority of the tenseless mode of speaking is that if everyone spoke in a tenseless way then after Joe dies none of the people whom he used to keep

³⁰ In English, this one-word sentence counts as tensed because the implication is that his audience should fire *now*. In other languages, such imperative commands are also conjugated and inflected in accordance with number, tense, etc.

awake at night by his harmonica playing could ever say, “Thank goodness that Joe is no longer around.” (Gale 1982, 56)³¹

Joe decides to speak only in tenseless sentences, even while at work. Can Joe efficiently carry out his job using only tenseless sentences?

Gales argues that he cannot, pointing out the absurdity of Joe’s yelling things such as the following, which are perhaps the best candidates for tenseless counterparts to (7):

(9) The enemy approaches within 100 yards on October 17, 1960, at 4.00 p.m. E.S.T.!

(10) The enemy’s approaching within 100 yards is (tenselessly present) simultaneous with the utterance of the sentence,
 “The enemy is now within 100 yards!”

Aside from being highly unpractical, this means of communicating would result in a loss of information which would need to be rectified on the part of Joe’s audience—for instance, by consulting a clock in order to ascertain that October 17th, 1960, at 4.00 p.m. is, in fact, the *current* time. According to the A-theorist, then, Joe has failed to pass on a piece of crucial

³¹ Interestingly, this also hints at the fact concerns about death and mortality are closely related to the debate between the A-theorist and B-theorist, a claim for which I argue in the epilogue.

information about the world itself, and so has failed to adequately describe it. The missing information corresponds to some fact in reality—namely, the objective fact of when the present is. As Gale quips, “so ends the tragedy of the ‘Lost Machinegun Company’” (Gale 1962, 57).³²

A more recent example of this kind of thinking can be found in Ludlow’s *Semantics, Tense, and Time* (1999). Although Ludlow’s argument takes a different route to that of Gale, both end up at the same conclusion. Ludlow begins his argument by championing a particular semantic theory which he calls an “‘absolute’ truth theory, in the form of a truth-conditional semantics” (Ludlow 1999, 28). Such a theory will yield *T-schemas* that tell us exactly what needs to be the case in order for a given sentence to be true:

“Snow is white” is true if and only if snow is white.

“Grass is green” is true if and only if grass is green.

“Strawberries are red” is true if and only if strawberries are red.

(... and so on).

A theory that is able to yield such T-schemas for all possible sentences of a language will have successfully told us what it is for any given sentence to be true, and so constitutes a *theory of truth* for that language.³³ According to some (Ludlow included), this also gives us an adequate

³² For objections to Gale’s analysis, see Mayo (1963) and Thalberg (1963).

³³ For a very clear and intuitive explanation of this sort of semantic theory, see Rob Stainton’s *Philosophical Perspectives on Language* (1996).

semantic theory—one that “will provide the language-world connection for any expression of the language (or part of language) under study” (Ludlow 1999, 32).

Ludlow uses this semantic theory to illustrate the untranslatability thesis. Consider what happens when we plug a tensed sentence into the left-hand side of the T-schema (the “object language”), and spell out its truth conditions in the right-hand side of the T-schema (the “metalanguage”):

“Fred is hungry” is true if and only if Fred is hungry.

“Fred was hungry” is true if and only if Fred was hungry.

“Fred will be hungry tomorrow” is true if and only if Fred
will be hungry tomorrow.

Since the aim of the B-theorist is to reduce tensed sentences to tenseless ones, the right-hand side of these T-schemas need to be rid of all instances of grammatical tense—such as “was,” “will be,” and “tomorrow.” Ludlow anticipates that the B-theorist will attempt this like so:

An utterance of “Fred is hungry” at time t is true if and only
if Fred is hungry at time t .

An utterance of “Fred was hungry” at time t is true if and
only if Fred is hungry at some time t' earlier than time t .

An utterance of “Fred will be hungry tomorrow” at time t is

true if and only if Fred is hungry at some time t' which is a day later than t .

Ludlow uses the example of a sentence similar to (4) to show that this analysis will not always be effective:

Tensed: “There is currently no spoken language” is true if and only if there is currently no spoken language.

Tenseless: An utterance of “There is currently no spoken language” at time t is true if and only if there is no spoken language at time t .

The latter analysis entails that the utterance in question is necessarily false, since if the right-hand side of the schema were true (i.e., if there were currently no spoken language), there would exist no such utterance. It seems clear, however, that such an utterance is only contingently false.

Ludlow also notes that it is impossible to use this strategy to adequately capture the truth-conditions of sentences containing an instance of lexical tense, such as “today” or “now”:

An utterance of “The meeting is now” is true if and only if the meeting is simultaneous with this utterance.

According to Ludlow, this kind of analysis is tantamount to “smuggling” an indexical into the right-hand side of the T-schema:

... the indexical element in “this utterance” looks an awful lot like a temporal indexical predicate. It certainly isn’t spatial; nothing in the perceptual environment is being demonstrated. It looks for all the world as if the extra indexical element just means *now*, and as if the expression “this utterance” means something skin to “the utterance happening now”! (Ludlow 1999, 90)

Ludlow concludes, then, that a T-schema cannot be generated for a tensed sentence unless tense also occurs in the right-hand side of that T-schema. This is another iteration of the untranslatability thesis.

Like Gale, Ludlow explicitly draws metaphysical conclusions from this thesis. According to Ludlow, “our metaphysical commitments are tied to our use of quantification over semantic values in the metalanguage” (Ludlow 1999, 76). In other words, if the right-hand side of a T-schema makes reference to something—and if that particular T-schema adequately provides the truth-conditions for the sentence in its left-hand side—then we are committed to the existence of that something. Since there is no T-schema for a sentence that is grammatically or lexically tensed without featuring such tenses in its right-hand side—and since it seems uncontroversial that there are such sentences that are true—at least some T-schemas make reference to the distinction between past, present, and future. If Ludlow’s argument for this particular semantic theory is right, then, it seems that we are committed to the objective existence of such a

distinction. “It is, with apologies to Quine,” says Ludlow, “that *to be is to be a semantic value*” (Ludlow 1999, 66, original emphasis).

Both Ludlow and Gale, then, endorse the idea that tensed sentences say something “extra” about the world (relative to tenseless sentences) and that this extra something corresponds to some fact out there in world—namely, a fact about the objective A-determinations of past, present, and future. This is entirely characteristic of A-theorists in general. Smith (1993), for example, argues that tensed sentences express A-propositions, which in turn ascribe the properties of *pastness*, *presentness*, or *futurity* to things. “Given the assumption that some A-sentence-tokens (e.g., “The sun is now shining”) are true, it follows that the tensed theory of time is true, that is, that A-properties [such as *pastness*, *presentness*, and *futurity*] are in fact exemplified” (Smith 1993, 8).

Heather Dyke (2008) tackles this A-theoretic argument from the untranslatability thesis head-on in her book, *Metaphysics and the Representational Fallacy*. She succinctly and clearly sums up the A-theorist’s overarching argument from untranslatability as follows:

(P1) Some tensed sentences are untranslatable into tenseless sentences without loss of meaning.³⁴

³⁴ Dyke acknowledges that, strictly speaking, P1 is not needed to reach the conclusion. This premise, however, is said to have a “dialectical” purpose, as it allows us to distinguish two different ways of challenging premise 3: either by denying that there are any true tensed sentences that are untranslatable, or by denying that there are any tensed, untranslatable sentences that are true” (Dyke 2008, 172, n. 10).

(P2) If there are tensed sentences which are untranslatable and true, then there are corresponding, irreducible tensed facts.

(P3) There are tensed sentences which are untranslatable and true.

Therefore, (C): Some irreducible tensed facts exist (*modus ponens*: P2 and P3).

(Dyke 2008, 55)

Dyke emphasizes that this argument begins with semantic premises and ends with a conclusion about the extra-linguistic world. (P1) and (P3) state facts about language—namely, that there exist natural-language (true) sentences which are essentially tensed. (P2) provides a bridge from these facts about language to facts about reality in general by making a claim about the relationship between tensed language and tensed facts:

If some true sentence makes an ineliminable reference to the pastness (say) of an event, that must be because there exists a fact about the pastness of that event to which that sentence refers. So, according to A-theorists, the argument from tensed language establishes the existence of tensed facts. (*ibid.*)

Dyke ultimately rejects this type of argument on the grounds that conditionals such as (P2) presuppose a certain claim about the relationship between reality and our descriptions of it. As Dyke argues, this presupposition is false, although it is tacitly accepted by nearly everyone who participates in the debate surrounding the untranslatability theory. Before outlining what

this presupposition is, and why it ought to be rejected (section 3), I outline a few of the most common defences employed by B-theorists against the A-theorist's argument from untranslatability (section 2.1). First, however, I revisit the notion of the time of ordinary experience and explain how the argument from untranslatability is an instantiation of the supposition that ordinary experience favours the A-theory of time.

2.1 Possible B-theoretic Defences

B-theoretic responses to arguments from the untranslatability thesis tend to be categorized as either belonging to the “old B-theory” or the “new B-theory” of time.

The “old” B-theorist are radical de-tensers; they argue that, contrary to the above arguments, tensed sentences can, in fact, be translated into tenseless sentences without loss of meaning (e.g., see Russell 1915; Quine 1960). If this is true—if instances of grammatical and lexical tense alike can be seamlessly reduced to talk of B-relations such as earlier-than, later-than, and simultaneous-with—the old B-theorist, like the tensor, argues that this has special implications for the metaphysics of time. In particular, this indicates that A-determinations themselves, and not just our talk about them, are reducible to B-relations. Ockham's razor dictates, then, that we ought to assume for the sake of parsimony that A-determinations do not in fact exist over and above B-relations—that is, that there is no objective distinction between past, present, and future. To put it succinctly, the idea is that “tensed sentences imply the existence of

tensed facts, but tenseless sentences do not, so tenseless sentences imply the existence of fewer kinds of entity than tensed sentences and are thus to be preferred” (Dyke 2008, 43).

As stated earlier, the old B-theory of time is thought to have failed entirely, and so no contemporary philosophers endorse this view. This is largely due to the type of arguments described above—Gale’s argument about Joe and the machinegun company, for instance—which deal specifically with temporal language. Philosophers working outside the philosophy of time, however, have come to the same conclusion with respect to other sorts of context-sensitive indexicals (i.e., personal indexicals such as “I”), effectively hammering the final nails into the proverbial coffin of the old B-theory of time. John Perry (1979), for instance, famously recalls a personal anecdote in which the indexicalization of a certain belief made all the difference:

I once followed a trail of sugar on a supermarket floor, pushing my cart down the aisle on one side of a tall counter and back the aisle on the other, seeking the shopper with the torn sack to tell him he was making a mess. With each trip around the counter, the trail became thicker. But I seemed unable to catch up. Finally it dawned on me. I was the shopper I was trying to catch. (Perry 1979, 3)

In other words, Perry began with the non-indexicalized belief that “Someone is making a mess,” and eventually took on the indexicalized belief that “*I* am making a mess.”³⁵ The latter, while it certainly entails the former, is much more informative. In fact, argues Perry, no amount of indexical-free detail could possibly be as informative as the latter. Consider, for example, the much more precise (yet indexical-free) belief that it is “the only bearded philosopher in a Safeway store west of the Mississippi” who is making a mess. Even this does not say as much as the simply indexicalized “*I* am making a mess,” since in order to make the same cognitive impact, the former belief would need to be supplemented with the belief that “*I* am the only bearded philosopher in a Safeway store west of the Mississippi,” which again features the indexical.

The B-theorist may be tempted to use this and other examples of non-temporal indexicals to her advantage. In the case of utterances or beliefs employing personal indexicals, she may argue, these cannot be effectively reduced to non-indexical utterances or beliefs does not cause us to think that the referent of that indexical is objectively metaphysically or ontologically distinct from all other subjects. The fact that “*I* am making a mess” carries with it more cognitive import than any tenseless utterance, however detailed, does not lead us to believe that there is a special metaphysical distinction to be enjoyed solely by the referent of “*I*.” Similarly, the fact that “It is raining in Toronto” is not as informative as “It is raining here” does not cause

³⁵ Although Perry is talking about beliefs, rather than utterances, it seems clear enough that one could be substituted for another and the point would still stand.

philosophers to think that *here-ness* is a special property that is objectively instantiated in particular places. Why, then, do philosophers seem to think that the untranslatability of temporal tense implies that there is an objective metaphysical distinction between past, present, and future?

The A-theorist may respond to this objection by arguing that there is a dis-analogy between instances of temporal tense and instances of other kinds of indexicality. The use of the spatial indexical “here,” for instance, seems to be partially temporal: the space that counts as “here” is the space that is *now* being referred to as “here.” The reverse, however, doesn’t hold: which particular time “now” refers to does not depend on where one is located. The very nature of tense and indexicals itself, then, seems to be fundamentally temporal. It seems that the B-theory of time, then, cannot pursue this line of defence.

The new B-theory of time, in contrast to the old B-theory, has enjoyed much popularity (e.g., Smart 1980, Mellor 1981, Oaklander 1984.). This theory begins by conceding that the translation of tensed sentences to tenseless ones without any loss of meaning is impossible, but goes on to argue that this does not entail that time itself is tensed. It may be the case that the sentence

(7) The enemy is now within 100 yards!

is not synonymous with its tenseless counterpart,

(10) The enemy's approaching within 100 yards is (tenselessly present) simultaneous with the utterance of the sentence, "The enemy is now within 100 yards!"

but there is nonetheless an important relationship between these two sentences. In particular, (2) gives the *truth-conditions* for (1): any utterance of (7) will be true if and only if the enemy's approaching within 100 yards actually *is* simultaneous with its utterance. Although some loss of "semantic meaning" has occurred with the translation of the one to the other, the latter nonetheless expresses the information that makes the former true. What this illustrates is that, despite the untranslatability thesis, tensed facts in the world—such as an objective distinction between past, present, and future—are not needed to make tensed sentences true. Like the old B-theorist of time, then, the new B-theorist of time concludes that these sorts of facts are superfluous:

However complex the verbal tense of a sentence, therefore, nothing but tenseless facts are needed to settle the truth of its tokens. The objective truth-values of tensed sentences and judgments give no reason to suppose that there are tensed facts, i.e. that things and events really do have A series positions. (Mellor 1981, 46)

Both old and new B-theories of time, then, are kinds of reductionism regarding tense. They both attempt to reduce talk of A-determinations to talk of B-relations—or else attempt to reduce

A-determinations themselves to B-relations in reality—in an attempt to make the B-theory compatible with our intuition that such talk is both true and meaningful.

Dyke (2008) outlines what she takes to be the commonly accepted “methodological map” with respect to debates surrounding realism and antirealism about things to which certain areas of discourse seem to refer. According to Dyke’s map, there are at least three other traditional routes open to the B-theorist in the face of the untranslatability thesis. Whereas the so-called “old” and “new” B-theories of time concede that talk about A-determinations is both true and meaningful, other versions of the B-theory may not. One may become, for instance, an *error theorist* about temporal talk; tensed sentences such as (1) or (7), although perhaps useful in our day-to-day lives, are, strictly speaking, false. Another antirealist option considered by Dyke is that of *non-cognitivism*. According to this view, temporally tensed sentences are not false, but neither are they true; rather, they are not the sort of sentences that are candidates for truth or falsity at all, as they simply fail to state any facts. Whatever the more technical problems that arise from holding such views, it is clear that they break quite drastically from our ordinary experience of time, which tells us that sentences such as “My childhood is in the past” are undoubtedly true.

The last position described by Dyke as being on the traditional methodological map is that of *conceptual relativism*. Conceptual relativists maintain that some of the things we talk about exist only in relation to specific domains of discourse. A conceptual relativist about mental properties, for example, maintains that “mental” sentences—for example, “She is thinking about

him”—are true or false when we find ourselves in the context of human experience, relationships, and culture; the same sentence, however, may have an indeterminate truth-value, or even be entirely meaningless, in the context of two chemists describing reality on the level of atoms, molecules, and chemical bonds. As applied to temporal language, the conceptual relativist might maintain that sentences about things being past, present, or future are sometimes true in the usual context—say, in the layperson’s everyday thinking and talking about time—but have an indeterminate truth-value in the context of physical theories such as Special Relativity (where events in the past according to one frame of reference might be in the future according to another). Perhaps, says the conceptual relativist, the difference in such cases is that in our everyday thinking and talking about time, we operate from a particular viewpoint within time—that which we identify as “now”—whereas abstract thinking and talking about time attempts to view reality without any such egocentric bias. According to Dyke, this is a position that is sometimes occupied within realist/antirealist debates over various kinds of entities.

Dyke, however, argues that there is a problem inherent in all of these B-theoretic defences against the untranslatability thesis, including both the old and new B-theory of time. In particular, she argues that there is a problematic assumption being tacitly accepted by all parties, about precisely how language relates to the world. Consider the old B-theory of time, which attempts to directly disprove the untranslatability thesis by providing direct (tenseless) translations of tensed sentences: the old B-theorist’s participation in this “translation project” (Dyke 2008) seems to imply her acknowledgement of the fact that *if it is not possible to provide such translations, then reality itself must be tensed*. The situation is similar with respect to the

new B-theorist of time: in this case, the B-theorist seems to accept that *if it is not possible provide the truth-conditions of tensed sentences in tenseless terms, then reality itself must be tensed*.³⁶ Similarly, the error theorist and the non-cognitivist alike seem to agree with the A-theorist that *if tensed sentences are true, reality itself must be tensed*; otherwise, why bother to deny the truth (or truth-evaluability) of any and all tensed sentences?

The case of the conceptual relativist, according to Dyke, is the most “pernicious” instance of this kind of thinking:

Its starting point ... is the different kinds of language that we employ, and the sentences within those linguistic frameworks that we take to be true. We can ask ontological questions from within those frameworks, and the frameworks themselves will deliver up the answers.... [However,] it makes no sense even to ask, whether there really are [i.e., whether there exist *simpliciter*] numbers, or moral properties, or whatever. We are, in a sense, imprisoned within our various linguistic frameworks, unable to access the world itself. (Dyke 2008, 126)

³⁶ Dyke is careful to note that this only applies to new B-theorists who base their belief in the B-theory of time on these sorts of language-related arguments. B-theorists who are B-theorists for independent reasons—such as scientific considerations—might employ these arguments only to show that the B-theory is compatible with tensed language. In that case, they may or may not assent to such a conditional.

This position posits a striking connection between language and ontology; in particular, this seems to suggest that what exists depends entirely on language. The fact that humans have happened to create a domain of discourse surrounding morality, for instance, is the very cause of the existence of the moral facts that we refer to in such discourse. According to such a view, if tensed discourse exists—and, of course, every philosopher of time concedes that it does—then tensed facts pertaining to the objective past, present, and future exist; the only difference here between the A-theorist and the conceptual relativist is that the latter “limits its ontological conclusions” by making existence relative (i.e., to certain domains of discourse) (Dyke 2008, 126).

Thus, each one of the B-theoretic defences to the untranslatability thesis thus far concedes something like the following conditional: *If tensed sentences are true, and if they cannot be translated into any other sort of tenseless sentences (with the aim of either preserving semantic meaning or expressing truth-conditions), then there must be corresponding tensed facts about reality.* In the section 3, I outline what exactly this conditional entails and go on to argue in favour of Dyke’s proposed alternative to the traditional methodological map.

2.2 Untranslatability and the Time of Ordinary Experience

In chapter 1, I outlined the difference between two general conceptions of time: that of scientific time, and that of the time of ordinary experience. I argued that these two conceptions of time stand at opposing ends of an axis of possible viewpoints of time. Scientific time, at one end

of this axis, employs a picture of time that is built around the “scientific” or “objective” evidence; it is the time that features in the context of thermodynamics, physical theories such as Relativity Theory, and rigorous logical analysis. The time of ordinary experience, on the other hand, is a “common-sense” picture of time that is built from the pre-theoretical way that we talk and think about time in our everyday lives—that is, one might say, it is based on the “subjective” evidence. I argued furthermore that these two conceptions of time are the driving force behind the debate between the A-theory and the B-theory of time; the former tends to favour the time of ordinary experience, whereas the latter places greater weight on the scientific conception of time.

Not just how we think, but also how we *speak*, about time makes up a large part of the evidence from ordinary experience. Indeed, the degree to which both temporal language and thought play a role in how we experience the world cannot be overestimated. One of the most famous examples of this kind of experience is highlighted in Arthur Prior’s famous argument in “Thank Goodness That’s Over” (1959). Here Prior appeals to the phenomenon of feeling relief at some unpleasant event’s being in the past. A de-tenser may attempt (unsuccessfully) to translate an utterance like “Thank goodness that’s over!” into something like, “Thank goodness that unpleasant thing ended prior to January 14th, 2015!” or even “Thank goodness that unpleasant thing’s ending is prior to this very utterance!” Prior’s argument against this kind of translation is effectively articulated by simply asking the question, “Why should anyone thank goodness for that?” (Prior 1959, 17).

The core of this argument is simply that it does not *feel* like we are speaking about utterance-tokens or B-relations when we use tensed sentences; generally, we take ourselves to be speaking about our experiences in the world around us. Insofar as it is possible to have intuitions regarding the untranslatability thesis, the pre-theoretical position is that indexicals such as “now” or “tomorrow” cannot be done away with if we want to adequately describe reality. This is central to the A-theorist’s overarching argument.

Compare this to the state of affairs described in chapter 2. The A-theory of time is so often thought to be supported by evidence from the time of ordinary experience because part of our ordinary experience of time consists of having phenomenological experiences of time’s passing. Such phenomenological experiences seem inconsistent with the B-theory of time, according to which time does not objectively pass. The A-theory, then, benefits from making claims about the way that time appears to us, and reaching conclusions about what that might mean for the structure of time itself. The B-theory—motivated by the evidence from the scientific conception of time—most often responds to these kinds of challenges by going to great lengths to explain how the phenomenology of time is, in fact, compatible with the B-theory of time and its block universe. The debate between tensed and tenseless time runs parallel to this. The tenses place a great emphasis on the way that we talk about times and events in our everyday lives—that is, as exhibiting properties such as *pastness*, *presentness*, and *futurity*—and argue that this serves as strong evidence that time itself is objectively “tensed.” The de-tenser, on the other hand, committed to the block universe for independent reasons, attempts to show how our everyday tensed talk about time is, in fact, compatible with her view. Ordinary experience, in

both cases, is pitted against the B-theory of time and its attempts to explain away the apparent existence of an objective distinction between past, present, and future.

In both instances, I believe that there is a better defence available to the B-theorist. As argued in chapter 2, the B-theorist need not go to great lengths to explain exactly how the block universe is compatible with our complicated phenomenological experience of time; rather, she need only show that the A-theory is *equally incompatible* with it. After all, the perception of time is an incredibly complicated phenomenon, and it seems presumptuous for the A-theorist to assume that their own theory of time explains this phenomenon completely. As I argued, neither theory is entirely adequate in this respect, and so our phenomenological experience of time does not serve as evidence for either theory. Similarly, I want to argue that the proponent of the tenseless theory of time need not argue that tensed sentences can be translated into tenseless ones in an attempt to show that the block universe is compatible with our everyday speech. Rather, the de-tenser need only point out that the tensors, among others, have assumed too much; in this case, the assumption is one about the relationship between reality and language.

3 The Strong Linguistic Thesis

The assumption that the existence of tensed sentences (which are both untranslatable and true) entails the existence of corresponding tensed facts about reality—such as facts about the objective *pastness*, *presentness*, or *futurity* of things or events—is symptomatic of a particular belief about the relationship between language and the world. Dyke refers to this belief as the

Strong Linguistic Thesis (SLT), and maintains that it is tacitly accepted by almost all philosophers who take up a position on the traditional methodological map (Dyke 2008, 7):

- (SLT) There is a privileged true description of reality, the sentences of which
- (a) stand in a one-to-one correspondence with facts in the world, and
 - (b) are structurally isomorphic to the facts with which they correspond.

This thesis is opposed to a number of other possible views about the connection between language and reality, such as the view that there are many (equally true) descriptions of reality, or that the one true description of reality need not be structurally isomorphic to the facts. Dyke notes that not many philosophers would (or do) assent to SLT when presented with it explicitly; nonetheless, “many metaphysical disputes only make sense if the disputants are understood to have assumed it” (Dyke 2008, 7).

The A-theorist’s—as well as the old and new B-theorist’s—occupation with the translation project reveals a tacit belief not only in one privileged true description of reality, but also that the sentences that make up such a description stand in a one-to-one correspondence with facts, to which they are isomorphic. To see why this is the case, consider what Dyke calls the *Weak Linguistic Thesis* (WLT) (Dyke 2008, 9):

- (WLT) There is a true description of reality that includes all of the truths that there are.

This hypothesis is weaker than SLT because it says nothing about there being a one-to-one correspondence between the sentences that make up the true description of reality on the one hand, and the facts in the world on the other, nor does it say anything about the similarities between the structure of those sentences and facts. According to WLT, both tensed sentences and tenseless sentences can be part-and-parcel of the “true description of reality”; there is no reason not to include both kinds of sentences. Once we add the proviso that such sentences are in one-to-one correspondence with the facts, however, tensed and tenseless sentences—for example, such as (1) and (2)—enter into competition with one another, so to speak. Presumably, there is only one fact that could correspond to either “My PhD defence is today,” or “My PhD defence is February 6th, 2015,” and so one of these sentences must be reduced to the other (or else eliminated altogether, either as false or meaningless).

Which of these sentences, then, corresponds to the fact? According to the A-theorist, it is the sentence that is most informative, most fundamental, and so most capable of subsuming the other. Arguments like those in section 2 show that, by this standard, the tensed sentence is always the clear winner. Importantly, SLT also adds the proviso that the correlating sentence is structurally isomorphic to the fact to which it corresponds. The result, then, is that time itself is “tensed” and that the distinction between past, present, and future is a real feature of reality.

The old B-theorists of time, then, insofar as they put forth their own translation projects, attempt to “find some other language that, they think, more accurately represents reality, and from which we can draw different ontological conclusions from those of the [A-theorists]”

(Dyke 2008, 114). The majority of new B-theorists, according to Dyke, are employing a similar methodology:

[The new B-theorist] is arguing for a metaphysical conclusion about the way temporal reality is on the basis of a fact about our temporal language, namely, the fact that tensed sentences can be assigned tenseless truth conditions.... Thus, the truth-condition strategy of the new B-theory ... is essentially no different from the strategy of the old B-theory, and indeed of the A-theory, which was also to provide a language that is supposed to reveal the ontological nature of time. (Dyke 2008, 51)

According to Dyke, assuming that one may “read off” features of reality from features of language is to commit what she calls the *representational fallacy* (Dyke 2008, 53).

I maintain that SLT, and the representational fallacy, is yet another means by which the B-theory is pitted against our conception of the time of ordinary experience. Just like the A-theorist who attempts to “read off” features of reality from features of our phenomenological experience of time, the tensors attempts to bolster their metaphysical picture of time by arguing that everyday temporal language is on their side. As with the case of phenomenology (as discussed in chapter 2), B-theorists too often concede too much ground to the A-theory; they assume that the A-theory is, in fact, compatible with the evidence and so spend their time arguing how the B-theory, too, might achieve compatibility with such evidence. I maintain that

something analogous is happening in the case of the linguistic evidence. In this case, a supposition is shared by both A-theorist and B-theorist, one which gives the A-theory a philosophical “leg up” by placing the burden of proof with the B-theorist. The debate then continues with the B-theorist’s attempts to absolve her view from the perceived trouble. In both instances, I maintain that the best B-theoretic response is not to engage in this dialectic at all, but rather to question these shared presumptions. Dyke’s rejection of SLT is one such type of defence.

3.1 Dyke’s Alternative Strategy

The best way to avoid committing the representational fallacy, according to Dyke, is to reject SLT. Dyke herself rejects SLT in so far as she maintains that (a) the correlation between sentences and facts is many-to-one, allowing for multiple valid descriptions of reality, some perhaps “better,” or more accurate, than others, (b) facts need not be isomorphic to the sentences that describe them, and (c) there is no one, privileged true description of reality in the first place. Her basic position is that two non-synonymous sentences may correspond to a single fact—that is, they may have *one and the same* truthmaker—and that fact may look a lot different to the many sentences which express it.

This view must be carefully distinguished from the new B-theory of time,³⁷ which maintains that tensed sentences in fact correlate to tenseless truthmakers because their truth-conditions can be given tenselessly. One might be tempted to conflate Dyke's position with this one because of the close, and often misunderstood, relationship between truth-conditions and truthmakers: after all, if we know the truth-conditions of a certain sentence, then we know what the world must in fact be like in order for that sentence to be true. Dyke is clear, however, that they serve separate roles; truth-conditions, for instance, are characteristic of meaningful sentences, whether true or false, whereas truthmakers are had only by true sentences. The difference is that truth-conditions, on the new B-theory of time, are linguistic entities, whereas truthmakers are extra-linguistic entities.

To spell out this difference, consider that one may “know” the truth-conditions of some sentence such that he is able to use that sentence appropriately, without therefore “knowing” the truthmaker of that sentence (Dyke 2008, 74). I know, for instance, what it means for the sentence, “There is sometimes a rainbow over Niagara Falls,” to be true: namely, that in certain conditions, to certain observers, a vivid band of red, orange, yellow, green, blue, and violet appears from within its mist. I do not know, however, the relevant laws of optics or refraction that underlie such phenomenon, and I need not have such knowledge in order to speak

³⁷ Dyke in fact draws a distinction between the “truth-condition variant” and the “truthmaker variant” of the new B-theory of time, her own view being closely associated with the latter. In this thesis, for clarity's sake, I have used “new B-theory of time” to refer only to the truth-condition variant.

competently about rainbows over Niagara Falls (in casual contexts, at least). Knowing a sentence's truth-conditions, in other words, is a matter of knowing how to appropriately translate that sentence into a specified metalanguage, whereas knowing a truthmaker is having an understanding of an ontological state of affairs in the world. "Reading off" ontology from truth-conditions—something the new B-theory of time attempts—is therefore an instance of Dyke's so-called representational fallacy. Dyke's preferred position, however—which she calls *truthmaker naturalism*—constitutes no such fallacy, since truthmakers simply *are* ontology.

Dyke's position stems from what she refers to as the "alternative strategy," a way of thinking about the relationship between language and reality that rejects SLT. This strategy can be employed in a number of metaphysical debates to yield new and better positions. According to this view, there are both "higher-level" and "lower-level" descriptions of reality. For example, a given portion of reality can be described as "a collection of atoms, a collection of molecules, a living organism, a sentient being, a conscious being, an intelligent being, a rational being, a moral being, and so on" (Dyke 2008, p. 129). Each of these descriptions, according to truthmaker naturalism, applies truly to that portion of reality, and "we need not be committed to the view that there is a distinct property corresponding to each predicate that truly applies to that object" (Dyke 2008, 129–30). To re-iterate, truthmaker naturalism maintains that two or more non-synonymous sentences (or, if you prefer, descriptions of reality) can be made true by one and the same truthmaker, in direct opposition to SLT. The nature of the truthmaker, then, cannot be gleaned from the meaning or structure of its true descriptions, since those various descriptions, *ex hypothesi*, need not share common meaning or structure.

In order to flesh out these ideas, Dyke outlines an application of her alternative strategy, and its resultant truthmaker naturalism, to moral discourse. She considers a sentence expressing a moral norm:

(11) Rescuing that drowning child is the right thing to do.

Dyke asks the reader to suppose that such a sentence has a non-moral truthmaker. Supposing that the utilitarians are correct, this truthmaker might turn out to be, say, the fact that rescuing that drowning child will maximize happiness. Even granting this, however, it does not follow that (11) has the same meaning as

(12) Rescuing that drowning child will maximize happiness.

Dyke insists that the difference in meaning between (11) and (12) does not preclude their having one and the same truthmaker. Once again, there is no one-to-one correspondence between true sentences and their truthmakers, and no presumption of structural isomorphism.

This sort of analysis can be applied to a range of metaphysical debates, says Dyke, and “there will be more than one way in which this strategy can be supplied with content.” A simple parallel can be made with temporal language and its role in the debate between A-theorists and B-theorists. Consider once again a tensed statement, such as

(1) My PhD defence is today.

Once again, the A-theorist argues that since (1) cannot be translated into a tenseless equivalent without at least some loss of meaning, then it carries with it some extra information (not carried by any tenseless sentence) that corresponds to some extra, “tensed” property in reality—namely, the objective distinction between the past, present, and future. A truthmaker naturalist response to this argument rejects this latter claim, that is, that a tensed predicate must always correspond to a tensed property. Whatever it is that makes (1) true is also capable of making a tenseless sentence such as (2) true. Since both a tensed sentence and a tenseless one can be made true by a single truthmaker, we need not concern ourselves with the question of which of these sentences corresponds to reality; for the truthmaker naturalist, they both do. Since these sentences need not be synonymous, an investigation into their meaning will not lead to any conclusion regarding the structure of that portion of reality to which they correspond.

It is still an open question, then, whether reality itself has tensed or tenseless properties; that is, it might be the case that tenseless, B-theoretic truthmakers in a block universe are what make all temporal utterances true (or false). For example, (1) may be made true by the fact that my PhD defence is on February 6th (the date theory), or that it is on the same day as the very utterance of (1) (Reichenbach’s token-reflexive theory). It may equally be the case, however, that the fact of the objective present’s being located at February 6th, 2015, is what makes an utterance like (1) true. Such a fact is inconsistent with the B-theorist’s block universe, in which all times are metaphysically and ontologically on a par. According to the truthmaker naturalist, there is no way to tell, based on the linguistic evidence alone, what sort of reality we live in, and so language-based arguments ought not lead us to prefer either the A-theory or the B-theory of

time; as with the phenomenological evidence, the linguistic evidence from ordinary experience simply underdetermines either conclusion.

4 Conclusion

The time of ordinary experience, then, does not provide us with linguistic evidence for the A-theory of time. A large part of our ordinary experience of time is using temporal language to refer to events being in the past, the present, or the future, and common sense dictates that such statements are often true; neither the A-theorist nor the B-theorist need deny this simple observation.

The position endorsed in this thesis (as inspired by Dyke's truthmaker naturalism) is that such phenomena are perfectly compatible with the B-theory of time and her block universe. There is no need for the B-theorist to show that tenseless sentences, rather than tensed ones, correspond to the facts, since there is no reason to suppose that there is a one-to-one correspondence between those facts and the truth-bearers (i.e., sentences) for which they serve as truthmakers. Just as the phenomenological experience of time, with its feelings of presence and passage, ought not to lead us to prefer the A-theory, the ubiquitous and indispensable nature of temporal language shouldn't lead us to become A-theorists. This position unifies the B-theory of time with the time of ordinary experience, since—like the A-theory of time—it does not reject our everyday way of speaking and thinking about time by attempting to analyze it into something

unfamiliar and overly-theoretical. The B-theory of time, then, is not quite so counter to our ordinary experience of time after all.

5 Works Cited

Callender, Craig, ed. *The Oxford Handbook of the Philosophy of Time*. New York: Oxford University Press, 2011

Comrie, Bernard. *Tense*. 1985

Craig, William Lane. *The Tensed Theory of Time: a Critical Examination*. Boston: Kluwer Academic Publishers, 2000.

Dyke, Heather. *Metaphysics and the Representational Fallacy*. New York: Routledge, 2008.

Frege, Gottlob. “*Begriffsschrift, eine der arithmetischen nachgebildete Formelsprache des reinen Denkens*” [Concept Script, a formal language of pure thought modelled upon that of arithmetic], trans. S. Bauer-Mengelberg in *From Frege to Gödel: A Source Book in Mathematical Logic, 1879–1931*, ed. J. van Heijenoort. Cambridge, MA: Harvard University Press, 1879/1967.

———. “*Grundgesetze der Arithmetik*,” Jena: Verlag Hermann Pohle, 1893, Band I/II. Also in *The Basic Laws of Arithmetic*, (partial translation of Band I) trans. M. Furth, Berkeley: U. of California Press, 1964.

Gale, Richard. "Tensed Statements," *Philosophical Quarterly* 12, no. 46 (January 1962), 53–59.

———. *The Language of Time*. London: Routledge & Kegan Paul, 1968.

Ludlow, Peter. *Semantics, Tense, and Time*. Cambridge, MA: MIT Press, 1999.

Mayo, Bernard. "Infinite Verbs and Tensed Statements." *Philosophical Quarterly* 13 (1963), 289–287.

Meinong, Alexius. "Über Gegenstandstheorie," in *Alexius Meinong Gesamtausgabe* [Complete Edition], ed. Rudolf Haller, Rudolf Kindinger in collaboration with Roderick M. Chisholm. Graz: Akademische Druck-u. Verlagsanstalt, 1904/1968–1978, II: 481–535.

Mellor, D.H. *Real Time*. New York: Cambridge University Press, 1981.

———. *Real Time II*. New York: Routledge, 1998.

Oaklander, Nathan L. *Temporal Relations and Temporal Becoming: A Defence of a Russellian Theory of Time*. Lanham, MD: University Press of America, 1984.

Perry, John. "The Essential Indexical," *Noûs* 13, no 1 (March 1979), 3–21.

Prior, Arthur. N. "Thank Goodness That's Over," *Philosophy* 43, no. 128 (January 1959), 12–17.

Quine, W.V. *Word and Object*. Cambridge, MA: Technology Press of MIT, 1960.

Reichenbach, Hans. 1947: *Elements of Symbolic Logic*. New York: Free Press.

Russell, Bertrand. *Principles of Mathematics*. London: Allen & Unwin, 1903.

———. “On Denoting,” *Mind* 14, no. 56 (October 1905), 479–493.

———. “On the Experience of Time,” *Monist* 25 no. 2 (April 1915), 212–33.

———. *Introduction to Mathematical Philosophy*, London: George Allen, 1919.

———. *My Philosophical Development*. London: George Allen and Unwin, 1959.

Schlesinger, George. *Aspects of Time*. Indianapolis: Hackett, 1980.

Smart, J.J.C. “Time and Becoming,” in *Time and Cause*, ed. Peter van Inwagen. Boston: Reidel, 1980.

Smith, Quentin. *Language and Time*. New York: Oxford University Press, 1993.

Thalberg, I. “Tenses and ‘Now.’” *Philosophical Quarterly* 13 (1963), 298 – 310.

Wittgenstein, Ludwig. *Tractatus Logico-Philosophicus*, trans. D.F. Pears and B.F. McGuinness. London: Routledge, 1921/1961.

Epilogue:

The Significance of the Debate about Time

What I hope to have done in this thesis is provide some reasons to think that the case for the B-theory of time, even in light of the evidence from our ordinary experience of time, is not as dire as is often supposed by A-theorists and B-theorists alike. It may seem certain to us that time passes, and that the distinction between past, present, and future is an objective distinction, independent of our own perspective in the world, but the A-theory is not immediately vindicated by these experiences; the A-theory has its own host of challenges to overcome in order to show how its dynamic picture of time is consistent with our highly complex perception of time. While it is also true that the language with which we speak about time is tensed in such a way that we cannot avoid referring to the *pastness*, *presentness*, and *futurity* of the events in our lives without severely limiting what we can say, the A-theory gains no credibility from this fact alone; the inferential path from language to metaphysics is not nearly so straightforward. These sorts of evidence, then, ought to pose no special threat to the B-theorist, whose picture of time is equally in line with—or, perhaps, equally *out* of line with—our ordinary experience of time.

Given that these phenomenological and linguistic considerations do not, in fact, favour one theory over another, what sorts of evidence *are* appropriate to draw from when assessing the A-theory and the B-theory of time? Why (and how) do we have the temporal experiences that we do? Is our everyday talk about time made true (or false) by facts about time's passage, or by the

constitution of the four-dimensional block universe? It is my belief that our everyday experience and intuitions about time are not going to be able to answer these questions, nor will they even point us in the right direction. It is my suspicion that if these matters are ever to be definitively settled at all, they will be settled by physics, or by other empirical sciences. Many philosophers of time, for instance, have turned their attention toward the A-theory and its compatibility with Special Relativity (e.g., Maudlin 2007; Smolin 2013). Research at the point of overlap between metaphysics and physics is likely a much more promising venue for garnering real evidence with respect to the objectivity of time's passage.

Throughout this thesis, I have made mention of my belief that this debate is importantly connected to issues surrounding death. In chapter 1, I noted that answers to the Passage Question—*Does time pass?*—might answer other questions that are important to philosophers and non-philosophers alike: Are we, in fact, moving closer and closer to our deaths? Is our time, quite literally, running out? As noted in my introduction, the B-theory seems to imply that birth and death are merely our temporal limits as four-dimensional beings, and that four-dimensional being (or any part of it) is not moving towards death any more than it is moving towards birth, the former merely being the mirror-image of the latter. David Velleman (2006) nicely articulates this B-theoretic picture of the self:

I extend through time with newer and newer temporal parts, but all of my parts remain stationary. A perduring [B-theoretic] self can be compared to a process, such as the performance of a symphony. The performance doesn't move with respect to time; it merely extends

newer and newer temporal parts to fill each successive moment. The last note of the performance is of course closer to midnight than the first, but we wouldn't say that midnight and the performance move closer together. Midnight is separated from the performance by a timelessly fixed but extremely vague interval, which can be made precise only with respect to particular parts of the performance—the first note, the second note, the third note—each of which is separated from midnight by an interval that is also timelessly fixed. Similarly, we wouldn't say that the ceiling and I get closer together from my feet to my head. The ceiling stands above me at a fixed but vague distance, which can be made precise only with respect to particular parts of me—feet, waist, head—each of which is separated from it by a fixed distance. (Velleman 2006, 13)

The A-theory, on the other hand, suggests that we are moving towards death in a very real sense, after which our lives—depending on which particular variant of the A-theory is true—are either rendered relics of the ontologically-reduced past, or else cease to exist entirely. Thus, Velleman suggests that coming to believe the B-theory of time, rather than the A-theory—or, believing in the *enduring self*, rather than the *perduring self*—might relieve certain anxieties surrounding death. Such shifts in attitude are likened by Velleman to certain tenets of Buddhism, which are also thought to alleviate much of our anxiety about death, the alleged root of “the suffering inherent in the human condition” (Velleman 2006, abstract). Derek Parfit (1984), in *Reasons and*

Persons, hints at something like this when he describes how altering his metaphysical picture of personal identity (which is importantly connected to metaphysical pictures of time) led to the diminishment of his anxiety over death:

My life seemed like a glass tunnel, through which I was moving faster every year, and at the end of which there was darkness. When I changed my view, the walls of my glass tunnel disappeared. I now live in the open air. (Parfit 1984, 280)

Lastly, Robin Le Poidevin (1996), in *Arguing for Atheism*, notes that “the shift to the B-theory of time removes all talk of a privileged perspective,” and that

if all times are equally real, then, regardless of whether all traces of my life will be destroyed, it will always be the case that I once lived and did various deeds. These truths can never be obliterated, even if the evidence for them is. I have nothing to fear, at least in this respect, from the ravages of time. (Le Poidevin 1996, 144)

The common thread here is that because the B-theory of time entails that death is not, contrary to appearances, tantamount to personal non-existence, it should no longer be seen as a “bad” thing.

The Passage Question, then, might be seen as one that connects in an important way with the Death Question—*Is death bad?*

Le Poidevin, however, is careful to qualify his last statement—namely, that the B-theorist has nothing to fear, “*at least in this respect.*” As this suggests, there are other respects in which death might constitute a bad thing, even on the B-theory of time. Supposing the B-theory of time is correct, there nonetheless exist long—perhaps infinite—stretches of time flanking life during which one does not exist. This may be an undesirable state of affairs for reasons independent of mere non-existence; for instance, perhaps this deprives us of certain goods we might have enjoyed if we had died later (or, perhaps, if we had been born earlier), and perhaps this is a bad thing. Also bad is the fact that the finitude of life means that, often, we are not able to meet our great-great-grandchildren, or see out the completion of our life’s work. Furthermore, the B-theory, of course, does not offer any assurances that our death will be painless or timely, and perhaps this is the true source of much of the anxiety concerning death.

It is far from clear, then, whether or not death is less of a bad thing according to the B-theory of time.³⁸ It is not even clear, in fact, whether this intuition, which seems to be relatively common among B-theorists, extends beyond the realm of philosophers and metaphysicians.³⁹ There is perhaps even a danger that such intuitions may generate in some of us philosophers an unfair bias towards the B-theory of time, as in the case of Gale’s (1962) machinegun-company Joe (see chapter 3, section 2 of this thesis). Regardless, it has been a central theme throughout

³⁸ It is, of course, a matter of contention as to whether or not death is a bad thing at all (e.g., see Feldman 1991).

³⁹ In fact, in my limited experience, it does not.

this thesis that our intuitions and otherwise “ordinary experiences” are not able to serve as adequate evidence for either theory of time, and so ought not to persuade us one way or another.

The significance of the debate between the A-theory and the B-theory, then, is not that death is simply less bad on one theory or the other. Rather, the value of this debate stems from the fact that simply thinking through these issues—and seeing the myriad of possible metaphysical pictures of time, all defended by intelligent and reasonable people—sheds much light on the Death Question, and may influence our answers to it. Learning to think about time in new and unfamiliar ways may serve to lessen our anxiety about death, as it allows us to unearth presumptions and biases that we did not even know were there in the first place. As argued in this thesis, the presumptions and biases operating beneath the debate about time are too often stacked in favour of the A-theory of time. In removing herself from the usual A-theory/B-theory dialectic, the B-theorist will find that our ordinary experience of time presents just as many challenges for the A-theorist.

Works Cited

- Feldman, Fed. “Some Puzzles about the Evil of Death,” *Philosophical Review* 100, no. 2 (April 1991), 205–227.
- Gale, Richard. “Tensed Statements,” *Philosophical Quarterly* 12, no. 46 (January 1962), 53–59.
- Le Poidevin, Robin. *Arguing for Atheism*. New York: Routledge, 1996.
- Parfit, Derek. *Reasons and Persons*. Oxford: Clarendon Press, 1984.
- Smolin, Lee. *Time Reborn: From the Crisis in Physics to the Future of the Universe*. Toronto: Knopf, 2013.

Velleman, J. David. "So It Goes," *The Amherst Lecture in Philosophy* 1 (2006), 1–23.
<http://www.amherstlecture.org/velleman2006/>

Bibliography

- Aristotle. *Categories and De Interpretatione*, ed. J. L. Ackrill. Oxford: Clarendon Press, 1963.
- . *Nicomachean Ethics*, 2nd ed. Trans. Terence Irwin. Indianapolis: Hackett, 1999.
- Balashov, Yuri. “Times of our Lives: Negotiating the Presence of Experience.” *American Philosophical Quarterly* 42, no. 4 (October 2005), 295–309.
- . *Persistence & Spacetime*. Oxford: Oxford University Press, 2010.
- Bardon, Adrian, ed. *The Future of the Philosophy of Time*. Routledge: New York, 2012.
- Bardon, Adrian, and Heather Dyke, eds. *A Companion to the Philosophy of Time*. Malden, MA: Wiley, 2013.
- Bourne, Craig. *A Future for Presentism*. Oxford: Oxford University Press, 2006.
- Braddon-Mitchell, David. “How Do We Know It is Now Now?” *Analysis* 64, no. 3 (July 2004), 199–203.
- Broad, C.D. *Scientific Thought*. New York: Harcourt, Brace & Co., 1923.
- . “Ostensible Temporality,” in *An Examination of McTaggart's Philosophy*, vol. 2, Cambridge: Cambridge University Press, 1938.
- . “A Reply to my Critics,” in *The Philosophy of C.D. Broad*, ed. P.A. Schilpp. New York: Tudor Publishing Company, 1959.
- Burge, Tyler. “Demonstrative Constructions, Reference and Truth.” *Journal of Philosophy* 71, no. 7 (April 1974). pp. 205-23.
- Burley, Mikel. “Should a B-Theoretic Atheist Fear Death?” *Ratio* 21 (September 2008), 260–72.
- Callender, Craig. *Time, Reality and Experience*. Cambridge: Cambridge University Press, 2002.

- . “The Common Now,” *Philosophical Issues*, 18, no. 1 (September 2008), 339–61.
- . “Is Time an Illusion?” *Scientific American* (June 2010), 59–65.
- , ed. *The Oxford Handbook of the Philosophy of Time*. New York: Oxford University Press, 2011.
- Comrie, Bernard. *Tense*. New York: Cambridge University Press, 1985.
- Corazza, Eros. “Essential Indexicals and Quasi-Indicators.” *Journal of Semantics* 21, no. 4 (2004), 341–74.
- . “On the Alleged Ambiguity of ‘Now’ and ‘Here,’” *Synthese* 138 (2004), 289–313.
- Craig, William L. “Tense and the New B-Theory of Language.” *Philosophy* 71, no. 275 (January 1996), 5–26.
- . *The Tensed Theory of Time: a Critical Examination*. Boston: Kluwer Academic Publishers, 2000.
- Davidson, Donald. “The Logical Form of Action Sentences,” in *The Essential Davidson*, eds. Ernie Lepore and Kirk Ludwig. New York: Oxford University Press, 2006.
- Deng, Natalja. “‘Beyond A- and B-Time’ Reconsidered,” *Philosophia* 38, no. 4 (December 2010), 741–53.
- Dolev, Yuval. *Time and Realism: Metaphysical and Antimetaphysical Perspectives*. Cambridge, MA: MIT Press, 2007.
- . “Perceiving Transience,” in *The Future of the Philosophy of Time*, ed. Adrian Bardon. New York: Routledge, 2012.
- Dyke, Heather. “Tokens, Dates, and Tenseless Truth Conditions,” *Synthese* 131 (2002), 329–51.
- . “Words, Pictures and Ontology: A Commentary on John Heil’s *From an Ontological Point of View*,” *SWIF Philosophy of Mind Review* 6 (2007), 31–41.

- . *Metaphysics and the Representational Fallacy*. New York: Routledge, 2008.
- . “The Evolutionary Origins of Tensed Language and Belief,” *Biology and Philosophy*, 26, no. 3 (May 2011), 401–18.
- Einstein, Albert. “Letter no. 215” (March 1955), *Correspondance, 1903–1955*, trans. Pierre Speziali. Paris: Hermann, 1972.
- Epicurus. “Letter to Menoeceus,” in *Hellenistic Philosophy: Introductory Readings*, 2nd ed. Eds. Brad Inwood and L.P. Gerson. Indianapolis: Hackett, 1997.
- Feldman, Fed. “Some Puzzles about the Evil of Death,” *Philosophical Review* 100, no. 2 (April 1991), 205–227.
- Fiocco, M. Oreste. “Passage, Becoming and the Nature of Temporal Reality,” *Philosophia* 35, no. 1 (March 2007), 1–21.
- Forrest, Peter. “The Real but Dead Past: A Reply to Braddon-Mitchell,” *Analysis* 64, no. 4 (October 2004), 358–62.
- Frege, Gottlob. “*Begriffsschrift, eine der arithmetischen nachgebildete Formelsprache des reinen Denkens*” [Concept Script, a formal language of pure thought modelled upon that of arithmetic], trans. S. Bauer-Mengelberg in *From Frege to Gödel: A Source Book in Mathematical Logic, 1879–1931*, ed. J. van Heijenoort. Cambridge, MA: Harvard University Press, 1879/1967.
- . “*Grundgesetze der Arithmetik*,” Jena: Verlag Hermann Pohle, 1893, Band I/II. Also in *The Basic Laws of Arithmetic*, (partial translation of Band I) trans. M. Furth, Berkeley: U. of California Press, 1964.
- Gale, Richard. *The Language of Time*. London: Routledge & Kegan Paul, 1968.
- Grünbaum, Adolph. “The Status of Temporal Becoming,” *Modern Science and Zeno’s Paradoxes*. Middletown, CT: Wesleyan University Press, 1967.

- Hammond, Claudia. *Time Warped: Unlocking the Mysteries of Time Perception*. Toronto: House of Anansi Press, 2012.
- Hartle, James. "The Physics of 'Now,'" *American Journal of Physics* 73 (2005), 101–109.
- Higginbotham, James. "Tensed Thoughts," *Mind and Language* 10, no. 3 (September 1995), 226–49.
- Hoerl, Christophe. "A Succession of Feelings, in and of Itself, is Not a Feeling of Succession," *Mind* 122, no. 486 (April 2013), 373–417.
- James, William. *Principles of Psychology*. Cambridge, MA: Harvard University Press, 1980/1981.
- Jokić, Aleksandar, and Quentin Smith, eds. *Time, Tense, and Reference*. Cambridge, MA: MIT Press, 2003.
- Kaplan, David. "Demonstratives," in *Themes from Kaplan*, eds. Joseph Almog, John Perry, and Howard Wettstein. Oxford: Oxford University Press, 1977.
- Le Poidevin, Robin. *Change, Cause, and Contradiction: a Defence of the Tenseless Theory of Time*. Hampshire: Macmillan, 1991.
- . *Arguing for Atheism*. New York: Routledge, 1996.
- , (ed). *Questions of Time and Tense*. New York: Oxford University Press, 1998.
- . "The Experience and Perception of Time," *The Stanford Encyclopedia of Philosophy* online, 2011 Fall ed., ed. Edward N. Zalta.
<<http://plato.stanford.edu/archives/fall2011/entries/time-experience/>>
- Locke, John. *An Essay Concerning Human Understanding*, ed. P.H. Nidditch. Oxford: Oxford University Press, 1975/1689.
- Ludlow, Peter. *Semantics, Tense, and Time*. Cambridge, MA: MIT Press, 1999.

Maudlin, Tim. "Remarks on the Passing of Time," *Proceedings of the Aristotelian Society* 102 (2002), 259–274.

Mayo, Bernard. "Infinite Verbs and Tensed Statements." *Philosophical Quarterly* 13 (1963), 289–287.

———. *The Metaphysics within Physics*. Oxford: Oxford University Press, 2007.

McCall, Storrs. "Objective Time Flow," *Philosophy of Science* 43, no. 3 (September 1976), 337–62.

———. *A Model of the Universe*. New York: Oxford University Press, 1994.

———. "Time Flow does Not Require a Second Time Dimension," *Australasian Journal of Philosophy* 76, no. 2 (June 1998), 317–22.

McTaggart, J.M.E. "The Unreality of Time," *Mind* 17, no. 68 (October 1908), 457–74.

Meinong, Alexius. "Über Gegenstandstheorie," in *Alexius Meinong Gesamtausgabe* [Complete Edition], ed. Rudolf Haller, Rudolf Kindinger in collaboration with Roderick M. Chisholm. Graz: Akademische Druck-u. Verlagsanstalt, 1904/1968–1978, II: 481–535.

Mellor, D.H. *Real Time*. New York: Cambridge University Press, 1981.

———. "Tense's Tenseless Truth Conditions," *Analysis* 46, no. 4 (October 1986), 167–72.

———. *Real Time II*. New York: Routledge, 1998.

Milikan, Ruth G. "The Myth of the Essential Indexical," *Noûs* 24, no. 5 (December 1990) 723–34.

Mozerky, Joshua M. "Tense and Temporal Semantics," *Synthese* 124 (2000), 257–79.

Nagel, Thomas. *The View from Nowhere*. New York: Oxford University Press, 1986.

Newton-Smith, William H. *The Structure of Time*. London: Routledge & Kegan Paul, 1980.

- Oaklander, Nathan L. *Temporal Relations and Temporal Becoming: a Defence of a Russellian Theory of Time*. Lanham, MD: University Press of America, 1984.
- . “The New Tenseless Theory of Time: A Reply to Smith,” *Philosophical Studies* 58, no. 3 (March 1990), 287–92.
- . *The Ontology of Time*. Amherst, NY: Prometheus Books, 2004.
- . “A-, B-, and R-Theories of Time: A Debate,” in *The Future of the Philosophy of Time*, ed. Adrian Bardon. New York: Routledge, 2012.
- Parfit, Derek. *Reasons and Persons*. Oxford: Clarendon Press, 1984.
- Parsons, Josh. “A Phenomenological Argument for Stage Theory,” dated July 10, 2013, forthcoming in *Analysis*. Retrieved from Parson’s personal website.
<<http://www.joshparsons.net/papers/stage-theory/stage-theory.pdf>>
- Partee, Barbara H. “Nominal and Temporal Anaphora,” *Linguistics and Philosophy* 7, no. 3 (August 1984), 243–86.
- Paul, L.A. “Temporal Experience,” *Journal of Philosophy* 107, no. 7 (July 2010), 333–359.
- Perry, John. “The Problem of the Essential Indexical,” *Noûs* 13, no. 1 (March 1979), 3–21.
- Price, Huw. *Time’s Arrow and Archimedes’ Point: New Directions for the Physics of Time*. New York: Oxford University Press, 1997.
- Priest, Graham. “Tense and Truth Conditions,” *Analysis* 46, no. 4 (October 1986), 162–66.
- . “Tense, *Tense*, and TENSE,” *Analysis* 47, no. 4 (October 1987), 184–7.
- Prior, Arthur. N. “Thank Goodness That’s Over,” *Philosophy* 43, no. 128 (January 1959), 12–17.
- . *Papers on Time and Tense*. Oxford: Oxford University Press, 2003.
- Prosser, Simon. “Could we experience the passage of time?” *Ratio* 20, no. 1 (2007), 75–90.

- Quine, W.V. *Word and Object*. Cambridge, MA: Technology Press of MIT, 1960.
- Reichenbach, Hans. *Elements of Symbolic Logic*. New York: Free Press, 1947.
- . *The Direction of Time*. Mineola, NY: Dover Publications, 1956/1999.
- . *The Philosophy of Space & Time*. New York: Dover publications, 1957.
- Richard, Mark. “Temporalism and Eternalism,” *Philosophical Studies* 39, no. 1 (January 1981), 1–13.
- Roark, Tony, ed. *Aristotle on Time: A Study of the Physics*. Cambridge: Cambridge University Press, 2011.
- Russell, Bertrand. *Principles of Mathematics*. London: Allen & Unwin, 1903.
- . “On Denoting,” *Mind* 14, no. 56 (October 1905) 479–493.
- . “On the Experience of Time,” *Monist* 25 no. 2 (April 1915), 212–33.
- . *Introduction to Mathematical Philosophy*, London: George Allen, 1919.
- . *My Philosophical Development*. London: George Allen and Unwin, 1959.
- Salmon, Nathan. “Tense and Singular Propositions,” in *Themes from Kaplan*, eds. Joseph Almog, John Perry, and Howard Wettstein. New York: Oxford University Press, 1989.
- Savitt, Steven F., ed. *Time’s Arrow Today: Recent Physical and Philosophical Work on the Direction of Time*. Cambridge: Cambridge University Press, 1995.
- Schlesinger, George N. *Aspects of Time*. Indianapolis: Hackett, 1980.
- . “How Time Flies.” *Mind* 91, no. 364 (October 1982), 501–23.
- Seager, William. “The Reality of Now,” *International Studies in the Philosophy of Science* 13, no. 1 (March 1999), 69–82.

- Sellars, Wilfred. "Philosophy and the Scientific Image of Man," in *Frontiers of Science and Philosophy*, ed. Robert Colodny. Pittsburgh: University of Pittsburgh Press, 1962.
- Sider, Theodore. "All the World's a Stage," *Australasian Journal of Philosophy* 74, no. 3. (1996), 433–53.
- . *Four-Dimensionalism: An Ontology of Persistence and Time*. Oxford: Oxford University Press, 2005.
- Smart, J.J.C. "Time and Becoming," in *Time and Cause*, ed. Peter van Inwagen. Boston: Reidel, 1980.
- . "Metaphysical Illusions," *Australasian Journal of Philosophy* 84, no. 2 (June 2006), 167–75.
- Smith, Carlota S. "The Syntax and Interpretation of Temporal Expressions in English," *Linguistics and Philosophy* 2, no. 1 (1978), 43–99.
- Smith, Quentin. "Problems with the New Tenseless Theory of Time," *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition* 52, no. 3 (November 1987), 371–92.
- . *Language and Time*. Oxford: Oxford University Press, 1993.
- . "Time and Degrees of Existence: A Theory of Degree Presentism," in *Time, Reality and Experience*, ed. Craig Callendar. Cambridge: Cambridge University Press, 2002.
- Smolin, Lee. *Time Reborn: From the Crisis in Physics to the Future of the Universe*. Toronto: Knopf, 2013.
- Stalnaker, Robert C. "Indexical Belief," *Synthese* 49, no. 1 (October 1981), 129–151.
- Thalberg, I. "Tenses and 'Now.'" *Philosophical Quarterly* 13 (1963), 298 – 310.

Tiffany, Evan C. "What is Essential about Indexicals?" *Philosophical Studies* 100, no. 1 (July 2000), 35–50.

Tooley, Michael. *Time, Tense, and Causation*. Oxford: Clarendon Press, 1997.

Velleman, J. David. "So It Goes," *The Amherst Lecture in Philosophy* 1 (2006), 1–23.
<<http://www.amherstlecture.org/velleman2006/>>

Vonnegut, Kurt. *Slaughterhouse-Five*. New York: Dell Publishing, 1969.

Wasserman, Ryan. "Material Constitution," *The Stanford Encyclopedia of Philosophy* online, 2014 Summer ed., ed. Edward N. Zalta.
<<http://plato.stanford.edu/archives/sum2014/entries/material-constitution/>>

Weyl, Hermann. *Philosophy of Mathematics and Natural Science*. Princeton: Princeton University Press, 1949.

Williams, Clifford. "The Phenomenology of B-Time." *Southern Journal of Philosophy* 30, no. 2 (Summer 1992), 123–37.

———. "A Bergsonian Approach to A- and B-Time." *Philosophy* 73, no. 285 (July 1998), 379–93.

Williams, D.C. "The Myth of Passage," *Journal of Philosophy* 48, no. 15 (July 1951), 457–72.

Wittgenstein, Ludwig. *Tractatus Logico-Philosophicus*, trans. D.F. Pears and B.F. McGuinness. London: Routledge, 1921/1961.

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