Abstract: In this paper I aim to distinguish between two mutually exclusive and disjunctively exhaustive theories of time, respectively called the A-theory and the B-theory by analytic philosophers of time, and marshal arguments to think that the B-theory of time is correct. In the first part, I will take inventory of some arguments purchased from natural theology, metaphysics, modal logic and set theory to think that the B-theory is true and the A-theory is false. I will not restrict myself to such considerations, however, and in the second part of the paper I will examine the single strongest argument for the A-theory and offer at least two different strategies one can adopt in order to evacuate the argument of any persuasive-punch. My task will have been accomplished to my satisfaction if I manage to convince the reader that the A-theory faces formidable problems which the B-theory parsimoniously avoids, and that the central argument for the A-theory's truth is severely undercut by the possibility, which I will explore, of a tenseless version of 'presentism'.

John McTaggart Ellis McTaggart famously wrote a surprisingly short article over a century ago, called *The Unreality of Time*,¹ in which he argued for the conclusion that time is not real. Though his conclusion has been accepted by practically nobody,² his analysis set a precedent in analytic philosophy and furnished analytic philosophers with both the categories in which, and vocabulary with which, analytic philosophers have since come to argue and think about time. What McTaggart realized is that the idea of time seems to involve two different sets of properties:

Positions in time, as time appears to us *primâ facie* are distinguished in two ways. Each position is Earlier than some, and Later than some, of the other positions. And each position is either Past, Present, or Future. The distinctions of the former class are permanent, while those of the latter are not... For the sake of brevity I shall speak of the series of positions running from the far past, through the near past to the present, and then

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¹ J.M.E. McTaggart, "The Unreality of Time" in *Mind* 17, no. 68 (1908): 457-474.
from the present to the near future and the far future, as the A series. The series of positions which runs from earlier to later I shall call the B series.\(^3\)

Just like that nomenclature was born which has since enjoyed preferential use among analytic philosophers. What McTaggart went on to argue was that 1) it is "essential to the reality of time that its events should form an A series as well as a B series,"\(^4\) that "time involves change,"\(^5\) which cannot be accounted for by the B series, but only by the A series, and 2) that the A properties, whether conceived as relations or qualities, are incoherent. As William Lane Craig notes:

Tensers love the first part of [McTaggart's] argument, that time is essentially tensed, but they disagree with the second part, that tensed time is self-contradictory. De-tensers love the second part of his argument because it shows that the tensed view of time cannot be true, but they reject the first part because they think that time is in fact tenseless. Virtually no one agrees with McTaggart himself that time is unreal; rather the question has become the nature of time: Is it tensed or tenseless?\(^6\)

McTaggart's analysis has thus divided philosophers of time into two groups: those espousing an A-theory of time, and those who adopt a B-theory. An A-theory of time stipulates that the A-properties really exist and are irreducible (i.e., cannot be reduced to B-properties); that is to say, the A-theorist maintains that tense is an objective feature of reality, where objective means independent of what anyone believes or perceives. It is now the case that I am writing this paper, or at least it is now the case that you are reading it. It was the case that J.M.E. McTaggart published his groundbreaking article. It will be the case that you will die. For the A-theorist, then, propositions constantly change their truth values, even while apparently all belonging to the

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\(^3\) Ibid., 458.
\(^4\) Ibid., 458.
\(^5\) Ibid., 459.
same logically possible world (i.e., by belonging to the actual world), as they go from future-
tense true, to future-tense false and present-tense true, and from that to present-tense false and
past-tense true. The B-theorist, on the other hand, maintains that moments in time are all related
to each other with at least one and only one of the B-properties; so that $t_x$ bears to $t_y$ (where both
$t_x$ and $t_y$ are moments/points in time) either an 'earlier-than' relation, a 'later-than' relation, or a
relation of simultaneity (where $t_x$= $t_y$). Thus, statements such as 'I am now reading this paper
about time' are interpreted to mean 'I stand in a simultaneous-with relation to my reading this
paper about time.' In other words, the B-theorist maintains that tense is not an objective feature
of reality. Statements issued with tensed indexicals, such as "I will do my homework" or "Obama
used to show promise" are all, at bottom, expressive of B-relations, not A-properties.\footnote{Whether A-properties are conceived as relations or qualities, B properties are relations.}

It is imperative that one comprehend that these two views of time are mutually exclusive,
so that there is no hybrid "AB-theory" of time, and that they are collectively exhaustive, so that
there are no "C" or "D" theories of time. They make logically exclusive claims, the first
suggesting that tense is an objective ineliminable feature of reality, the latter that tense is not.
Either tense is objective or it is not, and thus so long as 'time' is conceived of as one single thing,
it must be admitted to involve tense objectively, or not. Whatever else one may think about time,
short of arguing that it is not real or that it cannot be conceived at all, one must say that either the
A-theory is true, or the B-theory is true. Since the labels of 'A' or 'B' are unfortunately
undescriptive, philosophers have often adopted other terms; the A-theory of time is often called
the tensed theory or the dynamic theory, and the B-theory is, by contrast, called tenseless or
static respectively. I will presume the synonymy of these labels for either theory throughout the
rest of the paper. What reasons are there to think that either one of these theories of time are
true? In this paper I intend to survey arguments intended to mitigate prejudice in either direction, and conclude from them that the B-theory is more plausibly true than the A-theory.

As analytic Philosophy has stepped into the 21st century it has experienced some particularly exciting trends, the waves of which were first made in the mid-twentieth century, not least among which has been the growing trend in philosophy of religion of becoming tremendously open to natural theology and philosophical theology in general. As the dust from the collapse of early twentieth century positivism settles, and its abject failure to jettison metaphysics from respectable philosophy is beginning to be appreciated, there has arisen a revitalization of classical metaphysics, and a veritable "renaissance of Christian philosophy." This outburst of Christian philosophy and metaphysics has raised classical questions of philosophical theology, and recast them in the light of new insights and debates which have arisen in the course of the twentieth century. One such issue has been God's relationship to time, and this issue is among the most controversial areas of analytic philosophical theology today. In particular, Dr. William Lane Craig is noted for having developed a nuanced view according to which "God is outside of time sans creation, and in time since creation." Adopting an A-theory of time, Dr. Craig teases out and accepts the implications of an A-theory of time for one's doctrine of God, among which figures prominently the idea that creation pulls God into time. Other major thinkers who have contributed to philosophical argumentation in either direction have, as a matter of fact, often been philosophers whose positions are heavily invested with theological concerns, such as Brian Leftow, Paul Helm, Alexander R. Pruss, Eleonore Stump, Norman Kretzmann, William Hasker and the list goes endlessly on. It has thus become difficult to discuss persuasive arguments for or against the A or B theories of time without stumbling into

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8 William Lane Craig, "God is Not Dead Yet" in Christianity Today
a discussion involving natural theology. As a Theologian myself, I have absolutely no inclination to shy away from this intersection, and I think such arguments may be of pedagogical merit even to philosophers who are not theists, since such arguments may help them understand what accepting either theory of time would imply about what kind of theism would, for them, remain an option. It may also help naturalists, or others, construct arguments of the form 'if X-theory of time, then God does not exist.' In any case, it seems to me a fact established beyond contradiction that many of the thinkers who have contributed most earnestly to discussions on philosophy of time have been those with theological interests at stake, and this licenses an examination of the natural theological arguments on offer today.

There is no question that the classical Christian view of God's relationship to time is that God is outside of time or \(a\)-temporal, often indicated by the superlative attribute of 'Eternity'. However, as Paul Helm observes "though this view (let us call it "eternalism") has an impressive pedigree in the history of Western theism - it is the "mainstream" view represented by Augustine, Anselm, Aquinas, Calvin and hosts of others - there is reason to think that it is very much the minority view among contemporary theologians and philosophers of religion"\(^9\) today. For instance, Dr. William Lane Craig has articulated a view according to which God is in time, and others, such as Nicholas Wolterstorff, have proposed more radical theses to the same effect. Not all such theses are equally credible, and Dr. Craig's stands out among them, being notable for its ingenuity and plausibility on both philosophical and theological grounds. Though I greatly appreciate the remarkable contribution which Dr. Craig has made, which has set a new precedent for all future discussion about God's relationship to time, I will nevertheless join company with

Alexander Pruss, Paul Helm and others like them, and plant my flag with the B-theorists, making myself a direct antagonist of Dr. Craig's thesis. In other words, I will argue in favor of the classical Christian view that God is outside of time. It would be disingenuous of me, however, to pretend that my view could be straightforwardly identified with the Medieval view of Augustine, Boethius or Aquinas, since these thinkers also seemed to accept the veridicality of one's experience of time's flow, and the objectivity of the distinction between the present and either the past or the future. As Stump and Kretzmann explain, "with the possible exception of Parmenides, none of the ancients or medievals who accepted eternity as a real, atemporal mode of existence meant thereby to deny the reality of time or to suggest that all temporal experiences are illusory."\(^\text{10}\) The Medievals can be excused for this apparent\(^\text{11}\) oversight, and though they seem to have maintained both halves of a subtle contradiction, the debates in the Medieval period around philosophy of time were just not as extensive as they have become today because philosophy of time was of little concern, seemingly theologically benign and inconsequential. Today, however, it has become a pressing concern. It has become clear to philosophers of time today that if tense is an objective feature of reality, then God must be temporal.

It is worth clarifying why if the A-theory is true, then God must be in time. There are any number of arguments which conclude to the same, namely, that God must be temporal if there is an objective A-theoretic fact about tense, but perhaps the simplest and most persuasive comes from a consideration of God's omniscience. God, according to theists, is omniscient, which

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\(^{10}\) Eleonore Stump and Norman Kretzmann, "Eternity" in *Philosophy of Religion: The Big Questions.* ed. Eleonore Stump et al. (Singapore: Blackwell Publishers, 1999), 44.

\(^{11}\) There may be some theses, such as ersatz presentism, which could find a way to retain both commitments and ease the tension between them, but I do not myself think such theses work, and I will only appeal to such a thesis in order to show that if the A-theorist can get out of the set-theoretic problems I will propose then she still has all her work ahead of her if she is to argue for the A-theory, since the central argument for its truth is greatly undermined by the possibility, absent set-theoretic problems, of tenseless presentism.
The B-theory is True: Arguments from Natural Theology, Set-Theory and Epistemology

Tyler Journeaux

means that God knows all true propositions and does not believe any false propositions.

According to the A-theorist, though, there is an objective fact about tense. Thus, there is an objective fact not only concerning what is true at some time $t_1$, but about whether everything true at $t_1$ is presently true (i.e., a truth about whether it is now $t_1$). At $t_1$ God must know that which is true at $t_1$, and cannot know that which is true at $t_2$ and not true at $t_1$ until $t_2$ is actual and $t_1$ is not. However, for God to know tensed truths requires him to know what time it is, and this knowledge itself is not logically possible unless God is in time. We can summarize this argument, if somewhat enthymematically, in the following way:

1. If God exists then God is omniscient.
2. God is omniscient if and only if God knows all true propositions and does not believe in any of their negations.
3. Some Propositions are objectively tensed, such that their truth value is bound up with tense.
4. Tensed propositions change their truth value as time flows on.
5. Therefore, some propositions change their truth value as time flows on.
6. God cannot be omniscient unless he knows what time it is now [along with knowing in which direction time is flowing].
7. God cannot know what time it is now unless he is in time.
8. Therefore, God is in time.

What shall we make of such an argument? The B-theorist will take issue with premise 3 and thus dodge the conclusion of the argument, but premise 3 is the central commitment of the A-theory. Premise 7 is difficult to call into question because it seems inconceivable that God be conscious of the present in contradistinction to the past or the future, and not qualify as being 'in time'. After all, presumably, that is all the theist can coherently mean by saying that God is in time.
Thus we have a strong argument here for thinking that if the A-theory is true and God is omniscient, then God must be in time because he must be conscious of what time it is now.

This line of reasoning obviates the occasion of discomfort among theists, since it is difficult to see a way out of such a dialectical predicament. Some have attempted to split the horns of the dilemma by suggesting that there may be a third alternative theory of time, or else a way to purchase the benefits of both theories of time at once. This has been the agenda of Alan G. Padgett in proposing his thesis of *Eternity as Relative Timelessness*, in recent years, and was also the ambition of Stump and Kretzmann in their exposition of Boethius' philosophy of time, "whose definition of eternity was the *locus classicus* for medieval discussions of the concept." Stump and Kretzmann attempted to articulate and defend the philosophy of time adopted by the medievals, which somehow married the intuition about the objectivity of tense with the notion that nothing is either future nor past from God's perspective. However, their analysis seems confused, since their distinctions between temporal present and eternal present, or their suggestion of a kind of eternal-temporal simultaneity (ET-simultaneity), seem to break down into incoherence. Thus, in one place they argue that Boethius is "proposing two separate modes of real existence" the first being temporal and the second being eternal, and yet, in another place they admit that "temporal duration is "only apparent duration," while atemporal, infinite duration is "genuine, paradigmatic duration." The first commitment is A-theoretic, whereas the second commitment is B-theoretic, and the slip into either camp has raised eyebrows in both. Thus, as

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Padgett notes "the Boethian avenue is a dead end." However, Padgett's own view, predicated on a classically Newtonian distinction between measured time and absolute time, seems to confuse this distinction with a more radical view called metric conventionalism. William Lane Craig, therefore, thus offers the following observations by way of criticism:

Here is where the confusion sets in. Newton's distinction between absolute time and measured time has nothing to do with Poincare's distinction between absolute and conventional metrics of time... Metric conventionalism is a radical view rooted in a verificationist epistemology and rejected by the vast majority of philosophers of time and space. Certainly there are no good arguments for it.

I am inclined to agree with Craig, and I suspect that all proposals which aim to escape facing this basic dilemma between the A-theory and the B-theory are based on confused theses. I will therefore, for the purposes of this paper, not examine such schools of thought as the Oxford school of divine temporality or the Stump-Kretzmann view of ET-Simultaneity, or Alan Padgett's view of eternity as relative timelessness. I will adopt the presumption from this point on that one must face the problem of this most basic dilemma; either tense is irreducible and objective, or it is not.

One's philosophy of time delineates the parameters of one's theism, and vice-versa. One must therefore ask what the cost-benefit ratio is of affirming either theory of time for one's theism. Obviously denying temporality to God is prima facie preferable since it sanitizes theism of a rather pernicious anthropomorphism, but there are much better arguments to which one can turn for thinking that God must be non-temporal. In particular, two powerful arguments come from the concept of God as both simple and immutable, for the unreality of tense. As William

Lane Craig explains, "God's timelessness can be deduced from either His simplicity or His immutability"\(^{18}\) so that the cost of affirming an A-theory of time will be both the doctrine of divine simplicity and the doctrine of divine immutability. To begin with, it is important to understand that the doctrine of divine simplicity is a truly radical doctrine whose implications are often not fully appreciated even by many of those who pay it lip-service affirmation. Alexander Pruss writes "the doctrine of divine simplicity claims that there is no ontological composition in God of any sort, whether of matter and form, or of essence and accident, or of this attribute and that attribute considered as ontologically distinct."\(^{19}\) Therefore, as William Lane Craig explains, "the doctrine of divine simplicity states that God has absolutely no composition in His nature or being. Thus the notion of simplicity operative here is the polar opposite of complexity... It implies not merely that God does not have parts, but that He does not possess even distinct attributes... He stands in no relations whatsoever."\(^{20}\) However, Dr. Craig explains that "if God is simple in the way described, it obviously follows that he cannot be temporal, for a temporal being is related to the various times at which it exists: It exists at t1 and at t2, for example."\(^{21}\) Thus, if God is temporal he cannot be simple, and if God is simple he cannot be temporal. We can summarize the argument in the following way:

1. God is Simple.
2. If God is Simple then God has no relations.
3. If God is Temporal then God has relations.
4. Therefore, God is not Temporal.

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\(^{18}\) William Lane Craig, *Time and Eternity*, 130.
\(^{21}\) William Lane Craig, *Time and Eternity*, 30.
The doctrine of divine simplicity, however, is not some mere accoutrement of medieval scholasticism which may easily enough be left behind by the modern theist. Rather, it is considered by most classical theists, and many theists today, to be an essential feature of Christian theism. To say God exists is to say that the divine nature is exemplified, but the divine nature seems to involve simplicity and immutability. Certainly Catholics, for instance, will hold that God is simple, for "the Fourth Lateran Council teaches that God is a “substantia seu natura simplex omnino”—an “altogether simple substance or nature”—and the First Vatican Council reiterated the teaching,"\(^{22}\) so that Catholics will be bound to maintain the doctrine on pain of abandoning their faith. Moreover, the doctrine of divine simplicity is practically co-extensive with classical Christian theism, being defended by "Augustine, Boethius, Anselm, Aquinas and a host of lesser lights."\(^{23}\) The doctrine also has advantages, such as that it avoids any hint of anthropomorphism in talking about God. Thus, "perhaps even if [other Christians] do not accept the First Vatican Council, they should worry about divine simplicity."\(^{24}\) If one is inclined to believe that God must be metaphysically simple, as I am, then one will similarly be inclined to believe that God is not in time. If God is simple, then God is not temporal. However, if God is not temporal, then the A-theory of time is false, which by disjunction elimination entails that the B-theory is correct, so that from God's simplicity one can derive the truth of the B-theory of time.

Similarly, the doctrine of immutability stands in opposition to the thesis of divine temporality. The doctrine of God's immutability stipulates that "God cannot change in any

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\(^{23}\) Brian Leftow, "Is God an Abstract Object?" In *NOUS*, 581

However, if God is omniscient, and if time is ordered by an A-series, then obviously God's knowledge changes from moment to moment; "God would be constantly changing in His knowledge, knowing first that "It is now t₁" and later that "It is now t₂." Therefore, "the theist has to choose which of three beliefs she is willing to part with: 1) that God is immutable, 2) that God is omniscient, or 3) that tense is an objective feature of reality. I choose to abandon the third of those beliefs." This argument can be summarized in the following way:

1. God is immutable
2. If God is immutable then God does not change in any respect.
3. If God is temporal then God does change in at least one respect.
4. Therefore, God is not temporal.

However, again, if God is not temporal and he is omniscient then the A-theory of time is false, and the B-theory is true.

Thus, we have seen that both divine simplicity, along with immutability, are incompatible with the proposal of divine temporality, but that, since divine temporality both entails and is entailed by the A-theory, the A-theory is incompatible with divine simplicity and with immutability. This furnishes the classical theist with two powerful arguments to think that the B-theory is true, since either the A-theory is true or the B-theory is true, but if God, as conceived of in classical Christian theism, exists, then the A-theory is not true. Some theists, such as Craig, are willing to bite the bullet and affirm a version of theism which involves a mutable and composite God, but to the extent that the notions of immutability and simplicity are bound up

with the very concept of God one should, in the absence of very good reasons for affirming the
A-theory, be inclined to disaffirm any theory with such implications.

A different consideration segues from natural theological arguments, to more mundane
philosophical arguments about metaphysical and epistemological first principles. In the first
place, the Principle of Sufficient Reason (PSR), for which Leibniz was famous, is a principle
which may have considerable bearing on which theory of time is correct. The PSR is a
fundamental principle which, though sometimes identified as a principle of metaphysics, is, I
believe, properly identified as a principle of modal logic. It is the principle which underlies the
logic of all cosmological arguments for the existence of God, and "it now appears generally
established that once one grants an appropriate version of the PSR, it follows that there is a
necessary first cause of the cosmos, that is, of the aggregate of all contingent beings."28 The
principle stipulates that "every contingent fact, has an explanation."29 It cannot be overstated how
central this principle is to most theists, and how great the cost of abandoning it would be for
philosophy. If the PSR is false then there are brute facts, facts which are true and for which there
exist no explanations of why they are true. Whatever story one tells about the world, if the story
is reduced at bottom to an appeal to brute fact then it is nothing more than a just-so story, and
notions of justification and explanation are ultimately thrown out or ignored. One can imagine,
for instance, the implications for ethics; as Alexander Pruss explains in an article on his blog:

It is morally acceptable to redirect a speeding trolley from a track on which there are five
people onto a track with only one person. On the other hand, it is not right to shoot one
innocent person to save five. What is the morally relevant difference between the two
cases? If we denied the PSR, then we could simply say: “Who cares? Both of these moral

29 Alexander R. Pruss “The Leibnizian cosmological argument,” in *The Blackwell Companion to Natural
facts are just brute facts, with no explanation.” Why, indeed, suppose that there should be
some explanation of the difference in moral evaluation if we accept the denial of the PSR,
and hence accept that there can be facts with no explanation at all? Therefore, Pruss concludes, "the denial of the PSR... would bring much philosophical
argumentation to a standstill." The principle is controversial, for the most part, only because,
with it, God's existence can be derived from the existence of at least one contingent being, by
way of a sound, or at least valid, cosmological argument. God's existence is controverted, and
therefore the PSR is controversial, but it seems to me that there are no objections to the PSR
which have not been adequately dealt with in the work of philosophers like Alexander Pruss and
Richard Gale. In any case, the theist should be inclined to accept the PSR, and ceteris paribus no
philosopher should prefer to disaffirm it.

There is an antinomy, however, between the PSR and the A-theory of time. This
argument comes directly from the work of Dr. Alexander Pruss. The A-theory of time allows for
a species of contingently true propositions for which there seems to be no possible explanation of
their being true. For example, take the proposition "it is now April 28th, 2013." That is certainly
a contingent truth, if/when it is true, but what is the sufficient reason of its being true? It can't be
that a moment ago the time a moment before the present was true, for that itself would beg for
sufficient explanation. In Pruss' analysis, it seems as though there can be no sufficient
explanation of this fact, and thus he argues: "if I am right, then the A-theorist cannot explain why
it's 2013 [while] the B-theorist denies that there is any such objective fact, except for the trivial

30 Alexander R. Pruss, Philosophy Needs the Principle of Sufficient Reason,
http://alexanderpruss.blogspot.ca/2008/05/philosophy-needs-principle-of.html
31 Ibid.
32 See Pruss, Alexander. “The Leibnizian cosmological argument.” In The Blackwell Companion to Natural
fact that at $t_0$ it's 2013 which holds because of necessary truths about $t_0$ and 2013."\footnote{Alexander R. Pruss, \textit{Can A-Theorists Accept the Principle of Sufficient Reason?} http://alexanderpruss.blogspot.ca/2013/01/can-theorists-accept-principle-of.html} I, like Pruss, just don't see any reason to think that there can be any sufficient explanation, on the A-theory, of why it is \textit{now} whatever time it happens to be. Moreover, suppose that one rejects the PSR because they think there exists some defeater to it, it should still be the case that, as an epistemological principle, one ought to prefer avoiding the postulation of brute facts wherever possible, either by explaining supposedly brute facts, or else by simply denying that there are any such facts. If the A-theorist can do neither then they must either abandon the A-theory, or accept the cost of abandoning one of the most important philosophical principles there are. It is precisely this principle, and only this principle, which keeps philosophers from being able to postulate just anything and everything they like.

Another metaphysical consideration might be that, on the A-theory, one may not be able to adopt substance realism coherently. For instance, to draw from one of my favorite philosophers Gottfried Wilhelm von Leibniz, it seems that there is no coherent notion of an individual substance apart from the sum of all its predicates, so that, as Brandon C. Look explains, "$x$ is a substance if and only if $x$ has a complete individual concept (CIC), that is, a concept that contains within it all predicates of $x$ past, present, and future."\footnote{Look, Brandon C., "Gottfried Wilhelm Leibniz", \textit{The Stanford Encyclopedia of Philosophy} (Spring 2013 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/spr2013/entries/leibniz/>} Thus, if one adopts the A-theory, and believes that from one moment to another the total set of predicates which are true of any given 'substance' changes, then it seems difficult to give an account of what one refers to when picking out any discrete substance. Perhaps substances could be thought to have essential properties and non-essential ones, and tensed properties would be conceived of as being
non-essential, securing a version of substance realism for the A-theorist. This seems, in fact, to be precisely what J.P. Moreland and W.L. Craig have proposed. However, if one agrees with Leibniz that there is no coherent notion of a substance apart from the sum of all its predicates, then one should think this commitment entails that the A-theory is false.

Finally, a devastating argument against the A-theory, which has, as far as I know, not yet been written about by anyone, might come from considerations of modal logic and set theoretic paradoxes. Here I will turn to Patrick Grim's argument against God's omniscience, appealing to a set-theoretic paradox according to which there is no set of all true propositions, and introduce what is to be this paper's central positive argument for the B-theory.

Patrick Grim (1988) has objected to the possibility of omniscience on the basis of an argument that concludes that there is no set of all truths. The argument (by reductio) that there is no set $T$ of all truths goes by way of Cantor's Theorem. Suppose there were such a set. Then consider its power set, $\wp(T)$, that is, the set of all subsets of $T$. Now take some some truth $t_1$. For each member of $\wp(T)$, either $t_1$ is a member of that set or it is not. There will thus correspond to each member of $\wp(T)$ a further truth, specifying whether $t_1$ is or is not a member of that set. Accordingly, there are at least as many truths as there are members of $\wp(T)$. But Cantor's Theorem tells us that there must be more members of $\wp(T)$ than there are of $T$. So $T$ is not the set of all truths, after all.

As an argument against omniscience, this argument is worthless, for one can easily articulate the doctrine of omniscience without contaminating it with set-theoretic semantics, for instance by saying that some being $X$ is omniscient if and only if for any proposition $P$, if $P$ is true then $X$ knows $P$, and if $P$ is false then $X$ does not believe $P$. However, Patrick Grim's argument does have serious consequences for logically possible world semantics if one imagines that a logically

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37 This has elsewhere been the strategy of William Lane Craig and Alvin Plantinga, among others.
possible world is a maximally consistent set of propositions, since the actual world could no
longer be considered a logically possible world, by reason of there being no set of all true
propositions. Moreover, no possible world would be logically possible either because there is no
set of propositions which exhausts the set of truths which would obtain if such a world existed. A
solution can, however, be previewed in the work of Alexander Pruss.

Maybe when God believes a proposition \( p \) that obviously (to God) entails a
proposition \( q \), his believing of \( q \) is not a distinct believing from his believing of \( p \): he
believes \( q \) by believing \( p \). After all, it would have been inaccurate for you to have said
five minutes ago: "Alex does not believe that it is true that \( 8^2 = 64 \)." But prior to thinking
about this, while I did believe that \( 8^2 = 64 \), I had no separate belief that this proposition is
true. Nonetheless, arguably, it was appropriate to credit me with the second-order belief
that it's true that \( 8^2 = 64 \). Perhaps, then, God has only one act of believing, where he
believes a maximally specific true proposition that obviously (to him—all entailments are
obvious to him) entails all truths.\(^{38}\)

Perhaps it makes sense, therefore, to talk about logically possible worlds not as maximally
consistent sets of propositions, but as maximally specific propositions. This accords well with
classical Christian views such as that God's knowledge is intuitive rather than propositional, and
is an apprehension of truth all at once rather than a knowledge of a conjunction of discrete truths.
However, more to the point, it spares modal logic from having to abandon its favorite Leibnizian
convention of talking about possibility and necessity in the language of possible world
semantics.

What do such considerations have to do with philosophy of time? Well, imagine that
logically possible worlds are maximally specific propositions. It seems that such propositions
cannot possibly be tensed if they entail the set of all truths in the actual world (which presumably
would include both the proposition that \( t_1 \) is present, and the proposition that \( t_1 \) is past), unless

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\(^{38}\) Alexander Pruss, "Divine Beliefs" http://alexanderpruss.blogspot.ca/2012/04/divine-beliefs.html
every discrete moment were a different logically possible world. In other words, the A-theorist must either concede that tense is not objective in order to retain coherent talk about logically possible worlds, or else the A-theorist must admit that every different moment represents a different logically possible world. Apart from being rather abstruse and contrary to our modal intuitions, there may arise other problems as well. One might ask, for instance, how we transition from one possible world to another, and what explains the consistency of successively ordered logically possible worlds? Perhaps, if the A-theorist postulates chronons (atomic units of temporal duration) then each chronon could represent a logically possible world. However, it isn't clear to me that chronons\(^{39}\) are even logically possible, for the same reason Leibniz famously argued that material atoms are not logically possible (namely, that they always conceptually admit of division). In any case, many or most A-theorists reject the idea of chronons outright, and they cannot take such an avenue. Thus, it seems that logically possible worlds are disjointed from reality, since logically possible world semantics, for the A-theorist, fail to capture metaphysical reality.

Perhaps the A-theorist could appeal to some metaphysical reality beyond logically possible worlds and adopt a 'modal conventionalism' which stipulates that talk of logically possible worlds represents a useful \(\text{façon de parler}\), but one which falls short of capturing mind-independent reality. Thus, there would be no explanation, publishable in logically possible world semantics, for why time flows (i.e., for why one logically possible world succeeds another). However, that seems entirely \(\text{ad hoc}\), since it postulates a system of metaphysics which cannot

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\(^{39}\) Not to mention the problem of not being able to say that chronons (plural) are logically possible, since there is no logically possible world with at least two chronons. One might adopt a meta-modal conceptual scheme such that we can speak about meta-logical possibility (possibilities about possibilities), but this seems to push language to a breaking point and begins to look incomprehensible. Certainly we ought to prefer not to arrive at such a position.
be captured in the language of logical possibility. It makes no sense, though, to talk about metaphysics beyond the confines of the logically possible; indeed, it makes no sense to talk about anything beyond the confines of the logically possible. As Wittgenstein famously said, "wovon man nicht sprechen kann, darüber muss man schweigen."\(^{40}\) If something cannot be captured by and expressed in the language of logical possibility it is literally unthinkable, incommunicable and, in short, impossible. However, the A-theorist who makes an appeal to some metaphysical reality, beyond our models of logically possible worlds, which is not expressible in modal semantics, is postulating the incoherent.

The perceptive reader may realize that these same criticisms may obtain even if logically possible worlds were maximally consistent sets of propositions, since, if the set is different, then the logically possible world is different, but every moment some tensed proposition changes truth value the set of true propositions changes. However, the A-theorist, in that case, could have appealed to the idea that a logically possible world is comprised of some essential propositions and some non-essential or 'accidental' propositions, which would include all tensed propositions, so that, as we saw in the case of substances, the A-theorist may have been able to coherently say 'the world changes'. However, if logically possible worlds are single maximally specific propositions, and if tense is an objective feature of reality, then it seems as though there is no meaningful distinction between essential and non-essential compossible propositions derivable from a maximally specific proposition. However closely two maximally specific propositions resemble each other, they are clearly discrete things. To say that a world is a set of maximally

\(^{40}\) [http://tractatus-online.appspot.com/Tractatus/jonathan/D.html](http://tractatus-online.appspot.com/Tractatus/jonathan/D.html) "whereof one cannot speak, thereof one must be silent"
specific propositions, moreover, reintroduces the set-theoretic paradox which occasioned the move to talking about maximally specific propositions in the first place.

As a final observation, it also seems as though the A-theorist, because she is committed to the reality of tense, is constrained to either admit that there are no truths about the future at any logically possible world (which is to say, at any given moment), or else that the correspondence theory of truth is false, or else that determinism is true. I suspect that most philosophers do not want to believe, and certainly most theists do not believe, that determinism is true. Determinism doesn't make good sense of our experience of freedom\(^\text{41}\) or our experience of objective moral obligations and values, and there are no good arguments of which I am aware to think that determinism is true.\(^\text{42}\) However, if there are future-tense truths which are not true in virtue of their correspondence to the actual world (i.e., the logically possible world which obtains presently), then what truth-makers could they have? Unless future-tense propositions are entailed deterministically from the way the world actually is presently, the A-theorist must adopt an alternative theory of truth to the correspondence theory. Thus, the cost of the A-theory continues to rise until the debt seems no less than intellectual bankruptcy.

With such strong arguments against the A-theory, why is it that so many philosophers, particularly theistic philosophers, are such ardent A-theorists? The reason seems to be because the A-theory is less counter-intuitive than the B-theory precisely because it does not negotiate

\(^{41}\) Which is a properly basic belief

\(^{42}\) How would such an argument even go? Certainly it could not be rationally affirmed in the sense of being a conclusion arrived at by a free process of rational deliberation, since on the presumption that determinism is true, those who believe it do not believe it because they have a arrived at its truth by deliberation, but rather they believe it because they were determined to, in the very same way as those who disbelieve it were determined to (and since the cause of the belief does not consistently, or even very often, produce a true belief, as is evident from the fact that most people are not determinists, the cause of the belief cannot act to justify the belief). If determinism is true, therefore, it seems as though belief in its truth, caused by determining antecedent conditions which do not aim to produce true beliefs, could never be a justified belief.
away the veridicality of our experience of time's flow. As Luke Culpitt observes "in my presentist inclination, I want the most basic feature of time - its flow; the inexorable, proverbial "march" which we measure with chronometers - to be included in a theory about time."\textsuperscript{43} Therefore, it seems as though our experience of time inclines us to believe in the reality of time's flow. As many philosophers have observed, "phenomenological analyses of temporal consciousness has emphasized the centrality of past, present and future to our experience of time."\textsuperscript{44} William Lane Craig explains:

\begin{quote}
The advocate of the dynamic view of time may plausibly contend that our experience of tense ought to be accepted as veridical, or trustworthy, unless we are given some more powerful reason for denying it. But it seems to me that our belief in the reality of tense is much more fundamental than such an argument suggests. We do not adopt the belief in an objective difference between the past present and future in an attempt to \textit{explain} our experience of the temporal world. Rather our belief in this case is what epistemologists call "a properly basic belief."\textsuperscript{45}
\end{quote}

This is, in my estimation, the single most powerful argument for the tensed theory of time that there is. It is important, in order to understand the force of this argument, to understand what it is that Dr. Craig means by appealing to properly basic justification.

A properly basic belief is a belief which one is justified in maintaining, even in the absence of any supportive arguments or evidence, and which one would not be justified in abandoning without some strong reasons for doing so. Examples include beliefs such as in the reality of the past, the reality of the external world, the reality of other minds or persons, and such-like. These are beliefs for which it is hard to think what arguments or evidence we could have for their truth. Take, for instance, the reality of the past. Apart from theistic-Cartesian

\begin{itemize}
\item \textsuperscript{44} William Lane Craig, \textit{Time and Eternity}: 130.
\item \textsuperscript{45} William Lane Craig, \textit{Time and Eternity}: 130.
\end{itemize}
arguments, what conclusive arguments could one give for believing in the reality of the past which don't implicitly presume the reality of the past? For instance, I may appeal to my memories, or to other appearances of age in the world, but there is no way to guarantee that such appearances of age were not created moments ago along with the whole aggregate of contingent beings. Nevertheless, it is rational for me to maintain my belief in the reality of the past, and irrational to abandon it, in the absence of any defeater for that belief, where a defeater is some reason I might have for thinking some belief is false. A basic belief, then, is one which we are justified in rejecting just in case certain conditions obtain; namely, just in case we have some defeater for it which itself is not defeated by its own defeater (what Alvin Plantinga once called a 'defeater-defeater'). The difficulty with respect to the A-theory is that, as Craig observes, "not only does such a belief seem to be properly basic, but it even seems to be indefeasibly true." There is no denying that the commonsense notion that there is an objective fact about the distinctions of past, present and future is deeply ingrained in all of us, so that B-theorists like J.J.C. Smart seem justified when they exclaim that this intuition seems "programmed by original sin."

There are at least three strategies which the B-theorist can adopt in meeting this challenge. First, the B-theorist could reject this foundationalist epistemology, perhaps opting for a coherence theory of knowledge or some other alternative. However, I think that this epistemology, proposed by Alvin Plantinga, is the most plausible account of epistemic

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46 or began to exist causelessly, having no sufficient reason of its existence, and thus being a great big brute fact.
47 William Lane Craig, *Time and Eternity*, 132.
justification on the intellectual market today, and rejecting it outright seems absurd. This first avenue, therefore, is not open to me. Second, the B-theorist could concede the point that belief in the objectivity of tense is a properly basic belief, and then argue that there are such grave problems with the A-theory that these act collectively as a defeater for the A-theory. The arguments presented so far may be construed this way. One might say that God's simplicity and immutability, the truth of the PSR, the truth of the correspondence theory of truth, and so on, are more plausibly true than is the A-theory. In other words, it would be harder to part with all of these beliefs than it would be to part with the A-theory. Scilicet, it is more plausible that at least one of those commitments are correct and the A-theory is incorrect, than that the A-theory is correct and all of those commitments are incorrect. Other intuitions may also stand in opposition to the A-theory, such as the intuition that it is possible that there be backwards causality from future events to past events, or the intuition that "presentism is incompatible with consciousness." There is also the difficulty, given the set-theoretic paradoxes raised earlier, of not being able to rationally affirm that time 'actually' flows, since no actual world includes the phenomenon of time's flowing if logically possible worlds are maximally specific propositions which do not involve duration (i.e., if chronons do not exist). However, there is another strategy one could adopt, and that would be to argue that the A-theorist is wrong to think that our experience of time's flow is strongly supportive of the A-theory of time, such that our intuition does not license the claim that the A-theory is properly basic.

This third strategy is not unprecedented. For instance, "famously, D. C. Williams ridiculed the deep-seated intuition (at the heart of Bergson's thought, of course) that there is a flow of time, asking how fast time is flowing, if it's flowing." Moreover, the A-theory generally comes, as Alexander Pruss explains, in one of three basic varieties. First, there is the moving spotlight view which allows for the existence simpliciter of all past, present and future entities or events, while maintaining that there "is a non-perspectival fact about which of the events and objects are present, and which ones are past or future." Second, there is the growing block view which stipulates that the past and present are real, and the world is "constantly accreting new events and objects at its leading edge, namely the present." This view affords no reality to the future, which remains open and unreal. Thirdly, there is the popular view of presentism; it "is the most abstemious ontologically: there are only present events and objects." As Luke Culpitt admits "as a theory [presentism] doesn't have much to offer... it can't even account for the flow of time... in short, presentism really has no answer to any criticism." The only reason one can have for affirming presentism, it seems, is that some intuition makes it properly basic.

It seems plausible that whatever intuition supposedly leads one to affirm A-theory in general will be the same intuition which leads one to affirm any one of these three versions of A-theory in particular, or at least it will be the same intuition which leads one to affirm presentism. Therefore, if it can be shown that our intuition is satisfied if one of these three versions of the A-

54 Ibid.
55 Ibid.
theory, such as presentism, is true, and that a B-theoretic account of it can be given, then it will mitigate the case from that intuition for the truth of the A-theory. Recent literature in the philosophy of time, however, has raised the possibility of providing a B-theoretic version of presentism, and if this can be done then one cannot so easily move from the intuition of presentism to the truth of the A-theory.

Joshua Rasmussen of Notre Dame University has recently set out "to develop a tenseless version of presentism," which challenges the concomitance between the A-theory and Presentism. The A-Theory is understood here, thanks to McTaggart, to involve the commitment to three claims. First, the claim that different times collectively form an 'A-series.' Second, that there are such things as A-properties with respect to which times in an A-series are constantly changing. Thus, as a time marches on events go from being future-tense true, to present-tense true, changing their A-properties; events will exchange the property of being future, with the property of being present. Rasmussen notes that A-Theorists are generally committed to a third contention in addition to these two:

All A-theorists, whether or not they believe in [discrete] times, endorse this:

(3) Facts about A-properties are not reducible to facts about B-relations (i.e., relations such as earlier than or later than) and/or B-properties. These theses constitute the central doctrines of the A-theory.  

Rasmussen claims that it is this third commitment which is the defining and distinguishing feature of A-theory, while the presentist need only subscribe to the first two. Assuming "that

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58 Ibid., 272.
tenseless quantification is intelligible, Rasmussen defines Presentism, formally, in the following way:

(P) Everything presently exists.

In symbols:

(P) $\forall x (Px),$

where ‘$Px$’ is read ‘$x$ presently exists’ (and ‘$\forall x$’ is unrestricted). 60

With these definitions in place, Rasmussen briefly outlines an impressive argument for how the thesis he calls 'Tenseless' may be composable with a version of presentism called ersatz presentism.

To illustrate how Tenseless may be conjoined with presentism, I propose the following four theses, each of which an ersatz presentist may endorse. Firstly, times are abstract entities (e.g. maximal propositions) that bear primitive earlier than and later than relations to one another. Secondly, there’s always only one time that is true. Thirdly, times are constantly changing (in a Cambridge way). For example, over the course of a year, a time that is 7 years earlier than a time that is true becomes just 6 years earlier than a time that is true. Fourthly, there’s a distinction between a time that presently exists and a time that is present. An ersatz presentist thinks that everything presently exists (including past and future times) but does not thereby think that every time is present. 61

Thus, by imagining that there are things called 'times', which are maximal propositions, the ersatz presentist is able to argue that all times presently exist, and that only one time is present. That satisfies presentism here defined. 62 Even though I do not endorse this ersatz presentism, in part because it doesn’t seem to escape some of the problems already posed, such as violating the PSR or entailing divine temporality, I, like Rasmussen, believe that if ersatz presentism is open

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59 Ibid., 271.
60 Ibid., 271.
61 Ibid., 273.
62 Ersatz presentism looks rather like what Pruss called the moving spotlight theory, but whether or not ersatz presentism is 'presentism' as Pruss defined it, or is an example of the moving spotlight view as Pruss defined it, it remains a position which allows us to affirm that the present is ontologically privileged without having to commit to an A-theory.
for discussion and debate, then so, too, is a tenseless version of presentism." It therefore, if possible, demonstrates that whatever intuition leads us to think that the present has some objectively privileged status, it cannot so quickly be taken to justify a commitment to the A-theory. Even Rasmussen's critics seem to believe he is on to something. Jonathan Tallant, for example, argues that "Rasmussen's argument fails, but... we can establish the same conclusion by other means."

An objection could be raised to the effect that this ersatz presentism faces the same set-theoretic paradoxes which I made such a fuss about earlier, since ersatz presentism understands logically possible worlds to be maximally consistent sets of 'times' or 'maximal propositions'. Two responses are in order. First, perhaps there are other ways to escape the set-theoretic problems posed earlier. Alexander Pruss and Richard Gale, for instance, make allusion to such an avenue in a response they wrote to some of the critics of their cosmological argument for the existence of God from a weakened principle of sufficient reason. They argue that "a possible world is a maximal conjunction of composable abstract propositions (a BCF in our abbreviational terminology), with repetitions and other logical redundancies eliminated so as to avoid to set-theoretic paradoxes." Whether one can define 'redundancy' carefully enough to successfully avoid set-theoretic paradoxes without incurring other paradoxes, I do not know. However, if such an avenue is open for debate, then the A-theorist who travels this road has to look forward to conceding that there may be a version of presentism which is B-theoretic, which severely undercuts the strength of the argument from an intuition for presentism to the properly basic nature of belief in the A-theory. Out of the frying pan, into the fire. Thus, the B-theorist

63 Ibid., 273.
does well to highlight that the A-theorist, on her way to re-establishing the coherence of the A-theory given set-theoretic problems, would, it seems, have to undercut the most powerful argument for the A-theory in the process. The A-theorist is stuck unless she both manages to avoid set-theoretic paradoxes and find a defeater for ersatz presentism which isn't a defeater for the A-theory.

A perceptive reader may, however, see a more subtle difficulty with Rasmussen's proposal. They may argue that if the presentist is committed, as we have said, to the claim "that there are such things as A-properties with respect to which times in an A-series are constantly changing" then it is incumbent upon the ersatz B-theorist to provide a B-theoretic account of change. Rasmussen offers one.

For any x, the fact that x is changing from being α to being β is identical with the fact that there are times t and t*, such that (i) t is true, (ii) t entails that x is α, (iii) t* is later than t and (iv) t* entails that x is β.\(^{66}\)

Alexander Pruss offers a similar and simpler definition of 'becoming' which I think may work equally well if one substitutes 'becomes F' for 'changes in F respect': "x becomes F if and only if there is a time at which x is non-F and a later time at which x is F."\(^{67}\) Ersatz presentism, if possible, seems to suffer only from the same problems I have already pressed against the A-theory itself, and so if the A-theorist manages to absolve the A-theory of all of the charges brought forth in this paper then they are left, apparently, without a defeater for the possibility of a B-theoretic presentism.

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\(^{67}\) Alexander R. Pruss, "Becoming" http://alexanderpruss.blogspot.ca/2013/02/becoming.html
Moreover, putting the case for a B-theoretic version of presentism aside, if the problem is supposed to be merely accounting for the experience of time's flow, rather than accounting for time's flow as a feature of the world independent of experience, then the B-theorist can give any number of possible answers. For instance, perhaps something like Leibniz’ monadology is true, and monads perceive time's 'flow' because they have an appetitive quality such that their perception yearns for, or 'reaches' for their end (telos). That would even explain why time flows in the direction it does, rather than the opposite direction. In fact, though I can think of any number of explanations for time's flow on B-theory, I cannot think of a single coherent explanation of either time's flow or its direction on the A-theory. The A-theory seems to take time's flow to be a basic and brute fact, and this argues to its implausibility.

To recapitulate, we have seen various arguments to think that the A-theory is false, and that, therefore, the B-theory is true. Some of these included arguments of the form 'if God exists (i.e., it the divine nature is exemplified), then God has some property P (some property P is exemplified) which entails B-theory; but God does exist; therefore, B-theory.' Values which satisfy P include God's simplicity or his immutability. Moreover, God's existence may be controversial, but it is plausibly both a properly basic belief, and a belief for which proofs may be forthcoming from natural theological arguments. In fact, even if no argument in fact proves the existence of God, there are more plausible arguments for God's existence than there are for any other metaphysical postulate. There are no comparably good arguments for the reality of universals, or of particulars, or of the past or the future, or of other minds, or essences or natural kinds, or of any other (supposed) metaphysical reality. If nothing else, then, considerations of the

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68 I believe there are sound arguments the denial of any of the premises in which could only be done on pain of irrationality, and whose conclusions are 'that God exists'.
natural theological order are worthy of reflection. Moreover, the arguments of the above form are likely to carry persuasive force among a considerable number of A-theorists, since many or most also espouse some species of theism. Other arguments have been briefly examined, and attention has been called to some simply to alert the reader to their existence. I also presented a Cantorian argument, inspired by Patrick Grim's argument against God's omniscience, against the logical possibility of coherently affirming the A-theory. Finally, I examined what I take to be the single strongest argument for the A-theory, which is an epistemological argument to the effect that one fails to affirm A-theory only on pain of abandoning epistemic justification. I outlined two different plausible ways (and one implausible way) to respond effectively to the epistemic challenge, which led to an exploration of the possibility of a B-theoretic version of presentism.69 Though I have had to ignore arguments from science, the philosophy of science, the philosophy of mathematics and from theology, the A-theorist can hardly have recourse to any of these if I am correct to say that the single strongest argument for the A-theory is the epistemological argument. My success in establishing that the B-theory is true can be measured by how much plausibility my arguments afford it, and how much plausibility the A-theory is robbed of. If I have effectively dissolved the central argument for the A-theory, and presented various arguments against the A-theory and, therefore, for the B-theory, then I have succeeded in posing serious difficulties which the A-theorist cannot afford to dismiss.

69 or a version of the moving spotlight view.
Bibliography


