A-TIME BEATS NO TIME
A RESPONSE TO BRIAN LEFTOW

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Abstract. In this paper, I present a new argument against the compatibility of human free will and divine timelessness when conceiving of eternity in terms of an additional dimension as presented by Brian Leftow. The paper is organized as follows: After giving a brief sketch of Leftow's model, I argue that assuming libertarianism, free will presupposes presentism, since metaphysical indeterminism is only compatible with a presentist A-theory of physical time. Given this result, I make a case for the incompatibility of presentism and divine eternity modelled as a frame of reference, implying the incompatibility of the latter with human free will.

I. INTRODUCTION

The problem of reconciling human free will with divine foreknowledge has always been regarded as closely related to the question of defining God's relation to time, since it has been acknowledged that it is at least non-trivial whether God's knowledge of future events rules out genuinely free decisions concerning these events. Thereby, free will is generally understood in the libertarian sense, namely as the ability to do otherwise under the *same* circumstances.

The underlying problem can be set up, for example, this way:

(1) Necessarily, at all times, God believes alland only truths.
(df. omniscience)

(2) God believes now that you will finish reading this paper tomorrow.
(premise)

(3) Therefore you will finish reading this paper tomorrow.
(from 1, 2)

Prima facie, this result seems to imply that libertarian freedom and divine omniscience are mutually exclusive. Thus a proper solution to the freedom-foreknowledge problem has to explain why it is nevertheless not the case.

Traditionally, one tried to block the argument by stating that God is without temporal relations, this means, God lacks temporal extension and thus, divine eternity is to be conceived of as timelessness. Clearly, eternalism implies (~1) and (~2), since both (1) and (2) put God into a temporal relation. In consequence, in the framework of eternalism the above argument has to be modified as follows:

(1e) Necessarily, God believes all and only truths.

(2e) God believes that you will finish reading this paper tomorrow.

(3) Therefore you will finish reading this paper tomorrow.
(from 1e, 2e)

At first sight, there seems to be no real difference between the original argument and the modified one; they both lead to the same conclusion (3). However, so the traditional argument runs, in stating that God is timeless we cannot say that you will finish reading this paper tomorrow because God knew that you will finish reading this paper tomorrow *before* you decided to finish reading this paper tomorrow. Hence we cannot infer from the modified argument that God's fore-knowledge caused your decision to finish reading this paper tomorrow and therefore, you were not free in your decision to finish reading this paper tomorrow, as being perfectly timeless God cannot fore-know anything. Yet we are neither justified in saying that from the modified argument it follows that you will freely finish reading this paper tomorrow, even though God eternally knows of it. The only thing we can infer from the argument is that it leaves the problem unsolved whether you will freely finish reading this paper tomorrow. Thus naturally the question arises if eternalism necessarily ends up with some sort of negative theology, or if it is simply an incomplete argument so that its implication for human free will is to be unfolded.

Currently, the starting point in tackling the freedom-foreknowledge issue has changed somewhat: it is libertarianism that is widely considered to be essential, or to put it another way, the very question has become if and to what extent divine foreknowledge of future events is possible given the ability to do otherwise under the same circumstances. In the

context of both process thought and Open Theism a variety of options has been carefully worked out. The basic argument runs this way:

(1t) Necessarily, at all times, God believes all truths.

(2) God believes now that you will finish reading this paper tomorrow.

(3t) Therefore if you do not finish reading this paper tomorrow, you render that God believes tomorrow that you did not finish reading this paper on that day.[1] (from 1t, 2)

Apparently, there is a price to pay when being committed to libertarian free will. Given freedom, divine foreknowledge needs a basic redefinition, or restriction in some sense, in so far as it is logically impossible even for an omniscient being to have knowledge about future contingents. Needless to mention that such positions have often been accused of not being able to give a satisfying account of divine providence and eschatological hope. In considering these two lines while tackling the freedom-foreknowledge problem, the most natural question seems to be whether we could have it both ways, whether we can make the traditional view of divine timelessness securing foreknowledge and providence compatible with the modern libertarian view granting genuine freedom.

The most prominent contemporary approach to combining divine atemporality with libertarianism has been developed by Oxford philosopher Brian Leftow.[2] Leftow claims that, when considering eternity as a new, additional, and basically non-temporal dimension, divine atemporality becomes compatible with any theory of physical time, particularly with a presentist A-theory. This claim is remarkable, since for libertarianism presentism is commonly considered as a *conditio sine qua non*. To say it another way, if Leftow's model is sound, the eternalist can indeed have it both ways.

In this paper, I question Leftow's claim. The paper is organized as follows: After giving a brief sketch of Leftow's model, I argue that assuming libertarianism, free will presupposes presentism, since metaphysical indeterminism is only compatible with a presentist A-theory of physical time. Having shown this, it is straightforward to make a case for the incompatibility of indeterminism and divine eternity modelled as a frame of reference, implying the incompatibility of the

[1] Note that it is possible to maintain (1) in its original form while considering future contingents to be false. In this case, (~2), but (3t) from (1).

[2] Cf. Leftow (1991b). Further aspects of his model are elaborated in Leftow (1991a), Leftow (1991c), Leftow (2000), and Leftow (2001).

latter with human free will. Finally, I draw my own conclusions for the freedom-foreknowledge problem.

II. ETERNITY AS AN ADDITIONAL FRAME OF REFERENCE

In his *Time and Eternity*, Leftow offers an Anselmian model of the Boethian resolution of the freedom-foreknowledge problem. Unsurprisingly, he starts to develop his theory of divine timelessness with the very idea of Boethius:

ST. God 'sees' all temporal events happen at once.

Assuming that God is omniscient, with (ST) we have to affirm:

ST1. All temporal events occur at once.

As otherwise God's knowledge of events would differ from how they really occur. This, however, 'sits ill with the claim that God is cognitively perfect' (Leftow 1991b: 218). On the other hand, in affirming (ST1), we seem to deny that events stand in earlier-later relations. Yet actual causal relations between events posit a positive temporal distance that rules out temporal simultaneity of these events. Thus, to avoid the unwelcome consequence of (ST1) excluding causality between events, Leftow argues for understanding simultaneity postulated by (ST1) in an *atemporal* sense. A natural candidate for such a concept is, of course, the notion of divine eternity. More exactly, strongly influenced by the concept of space-time in Special Relativity, Leftow suggests to conceive of eternity as 'one more frame of reference, distinct from any temporal frame of reference' (Leftow 1991b: 234). Such an understanding makes it possible to affirm (ST1) without denying the existence of events occurring at different times, as in eternity all temporal events occur at once, while occurring at various points in time.[3]

To work out his proposal more precisely, Leftow first gives a series of definitions (Leftow 1991b: 238–41):

(6) 'Now' is a primitive term. (now)

[3] Leftow gives two main reasons why to assume the existence of such a frame of reference, (1) an argument he calls *Zero Thesis*, and (2) the fact that if God exists, eternity is logically a date, namely the date of God's existence. In this paper, I do not consider the Zero Thesis, in so far (as an additional motivation) it does not contribute to solving the underlying problem. Discussions of the Zero Thesis can be found in Padgett (2001) and Craig (2001).

(7) An event E A-occurs iff E occurs now such that occurring now does not entail having a position in a B-series of earlier and later events. (A-occur)

(8) An event E B-occurs iff E's location in a B-series is *t*, and it is now *t*. (B-occur)

Clearly, if event E B-occurs, E A-occurs, but *not* vice versa. For an event E A-occurs and does not B-occur, if E is not located in a B-series or if E A-occurs and is located in a B-series but does not A-occur at its B-series location. Yet this latter case can only be given, when a temporal event occurs in an atemporal frame of reference.

(9) Two events E_1, E_2 are B-simultaneous iff they have the same location in a B-series in the same frame of reference R. (B-simultaneity)

(10) Two events E_1, E_2 are A-simultaneous iff they are B-simultaneous and they B-occur. (A-simultaneity)

Given (6–10) it becomes possible to make a distinction between temporal and eternal frames of reference as well as temporal and eternal entities:

(11) R is an eternal frame of reference iff R is such that necessarily, all events that A-occur in R A-occur A-simultaneously-in-R. (eternal frame of reference)

(12) R is a temporal frame of reference iff it is not the case that R is such that necessarily, all events that A-occur in R A-occur simultaneously. (temporal frame of reference)

(13) K is a timeless entity iff K can A-occur but cannot B-occur. (timeless entity)

(14) K is a temporal entity iff K can B-occur. (temporal entity)

Accepting these definitions, we seem to have a sound solution how a timeless God can be related to temporal events and entities. However, there is a price to pay for this solution:

> [...] if one holds that God is timeless and omniscient, one has reason to say that the objects of God's knowledge, including all temporal creatures, exist with Him in eternity. (Leftow 1991b: 243)

For Leftow this price doesn't seem very high. Yet, as I shall show in the next section, this price is actually far too high. But let us first complete the reconstruction of Leftow's theory, by presenting his argument for the

compatibility of his model with presentism (and thus with libertarian free will).

According to Leftow, when thinking of divine eternity as an additional, atemporal frame of reference, divine knowledge of future events does not rule out libertarian free will, in so far the model is compatible with both A-theories of time and B-theories of time, in particular with presentism:

> [...] it can be true at a time t that an event dated at t+1 has not yet occurred in time, and yet also correct to say that that every event exists in eternity. That all events occur at once in eternity, I submit, does not entail that they all occur at once in time. (Leftow 1991b: 232)

The argument for the compatibility of Leftow's eternity model with presentism rests upon the thesis of the relativity of simultaneity; it runs this way:

(15) Simultaneity and presentness are relative to frames of reference. (premise)

(16) Present events are actual in some way in which future events are not. (presentism)

(17) Therefore the actuality of present events is relative to frames of reference.

Clearly, from (17) it follows that presentness *simpliciter* cannot be defined if there exist more than one temporal frame of reference. Contrarily, presentness can only be defined relative to a certain temporal frame of reference R. Consequently, Leftow speaks of 'now_R' versus 'now_R*'. In addition, he introduces a non-temporal relation P of causal priority:

> P-series will be constituted of just those causal relations that are absolute and invariant within all temporal reference frames. (Leftow 1991b: 232)

For any event $\tilde{E}$ which is member of no P-series we can find a frame of reference R and an event E in a P-series so that $\tilde{E}$ is B-simultaneous with E in R. Thus we can place $\tilde{E}$ in a P-series by saying that $\tilde{E}$ B-occurs in R at the P-series location of the P-series event E. Note that the existence of P-series allows for the non-transitivity of simultaneity. For consider three events E_1, E_2, and E_3 such that E_1 and E_2 are B-simultaneous and occur before E_3 in the frame of reference R, while E_2 and E_3 are B-simultaneous and occur before E_1 in the frame of reference R*. The P-point at which E_2 occurs in R is P-prior to the P-point at which E_2 occurs in R*. Therefore, if in R it is now_R the P-point at which E_1 occurs, that E_2 is now_R actual in R does not entail that E_2 is now_{R^*} actual in R*. And it is exactly this

result that makes it possible to block the well-known argument stating that (17) rules out any ontological difference between past, present, and future events:

> If we take eternity as one more frame of reference, then, we thus can say that a temporal event's being present and actual in eternity does not entail that it is present and actual at any particular time in any temporal reference frame (though it does follow that this event is, was, or will be actual in all temporal reference frames). (Leftow 1991b: 234)

III. INDETERMINISM CONTRA DIVINE TIMELESSNESS

In this section, I shall show that in conceiving of eternity as an additional dimension or frame of reference, Leftow's account is – despite his claim – incompatible with libertarianism. I begin with reformulating the underlying problem.

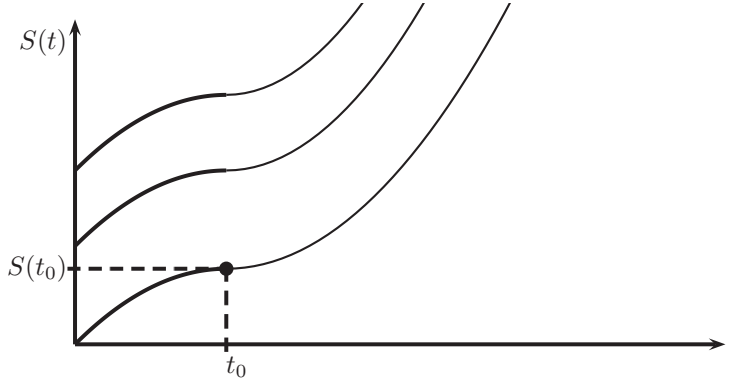

Figure 1: Modeling determinism

3.1 Divine time and free will vs. physical time and indeterminism

Setting the stage, I argue that instead of directly focusing on the link between divine time and free will, we should split up the problem into two parts, and should first discuss if libertarian free will rules out some theories of physical time. Having completed this task, we are left with the – I claim – simpler problem, namely to connect some sort(s) of physical time (compatible with libertarian free will) and divine time. Let us begin with a series of definitions:

(18) An agent has free will iff it can at least sometimes be the case that (a) the agent is able to do otherwise under the same circumstances (Principle of Alternate Possibilities), and (b) the agent acts, or decides to act, for understandable reasons, and (c) the origin of the decision is within the agent.

Clearly, free will is given only if all three conditions are met, and *vice versa*, i.e. if one of these three conditions is not fulfilled, the agent does not decide or act freely. Note that, accordingly, (16a) the Principle of Alternate Possibilities is a necessary but not sufficient condition for free will.

(19) Determinism (D) is the thesis that the state of the world s_0 at some time t_0 and the laws of nature together uniquely fix the state of the world s_t at any time t.

(20) Indeterminism is the denial of determinism (~D).

Although the above definition of determinism is the most common one, it proves useful to work out its implications, particularly the difference between determinism and indeterminism, in a somewhat greater detail than usual. Thus let us take a closer look at the determinism thesis, depicted in Figure 1.

First of all, (D) implies that there is a set **S** of law-like[4] functions S each of which describes a *possible* course of the world, while the value of S at a particular time t represents a possible state of the world at this particular time t. In Figure 1 each curve illustrates such a possible course of the world, while each point of such a curve represents a possible state of the world at a particular time t. Note that according to determinism the course of the world is uniquely fixed and therefore these curves cannot intersect. In principle, each law-like function $S \in \mathbf{S}$ *could* represent the actual course of the world. It is the state of the world s_0 at a particular time t_0 that first determines which law-like function *represents* the actual state of the world; it is the law-like function the graph of which entails the point (t_0, s_0).

Formalizing this proves quite useful. Thus let T be 'time', i.e. any particular point in time is an element of T, and let Z be the set of all possible world states. Then, a law-like function $S \in \mathbf{S}$ describing a possible course of the world does nothing but assign each point in time to exactly one particular world state. In accordance, S always takes the form

[4] In calling a function $S \in \mathbf{S}$ law-like I point to the fact that the natural laws determine (or at least constrain) the exact form of S.

$$S\colon T \to Z,\ t \to S(t)_{df} = s_t, \qquad (*)$$

where s_t is only an abbreviation for $S(t)$ which we introduce for the sake of simplicity. Remarkably, it has often been overlooked that (*) implies the time dependence of world states s_t, or to put it in other words, (D) entails the fact that the course of the world S is a function of a variable we call time t.

For each pair (t_0, s_0), henceforth we call 'present', there is (at most)[5] one law-like function $S \in \mathbf{S}$ the graph of which entails the point (t_0, s_0), i.e.

$$\forall\ t_0, s_0\ (\exists_1\ S\colon S(t_0) = s_0)\ . \qquad \text{(uniqueness of the present)}$$

That is to say, the present state of the world s_0 uniquely determines the actual course of the world. Furthermore, (D) implies that the graphs of law-like functions $S \in \mathbf{S}$ do not intersect, that means, both the past course of the world and the future course of the world is unambiguously fixed by the laws and the present (t_0, s_0). Thus, if two law-like functions S_1, S_2 describe the same present, they describe the same past and the same future and are therefore identical, i.e.

$$\forall\ S_1, S_2 \in \mathbf{S}\ (\exists\ t_0\colon S_1(t_0) = S_2(t_0) \Rightarrow S_1 = S_2). \qquad \text{(D)}$$

Thereby, the unalterability of the past course of the world corresponds to the restriction of (D) to all past times $t < t_0$:

$$\forall\ S_1, S_2 \in \mathbf{S}\ (\exists\ t_0\colon S_1(t_0) = S_2(t_0) \Rightarrow S_{1\ |\ (-\infty,\ t0)} = S_{2\ |\ (-\infty,\ t0)}), \qquad (D_{past})$$

while the fact that the future course of the world is fixed corresponds to the restriction of (D) to all future times $t > t_0$:

$$\forall\ S_1, S_2 \in \mathbf{S}\ (\exists\ t_0\colon S_1(t_0) = S_2(t_0) \Rightarrow S_{1\ |\ (\ t0,\ +\infty\ )} = S_{2\ |\ (t0,\ +\infty)}), \qquad (D_{future})$$

Clearly, (D) is the conjunction of (D_{past}) and (D_{future}), or to put it another way, if the present state of the world corresponds to the law-like function $S \in \mathbf{S}$, the same S represented the past course of the world and the same S will represent the future course of the world.

Contrarily, indeterminism (~D) states that it is not the case that (D). Assuming the unalterability of the past (D_{past}),[6] (D) states that the laws and the present state of the world s_0 do *not* fix the future course of the

[5] Impossible world states correspond to pairs that are not entailed by any law-like function $S \in \mathbf{S}$.

[6] Note that the unalterability (or fixity) of the past need not rule out the possibility of the 'could-have-been-otherness' of the past. Contrarily, (D_{past}) states nothing but the fact

world uniquely. Therefore (~D) is simply ($\sim D_{future}$).[7] In particular, we can find law-like functions S_1, $S_2 \in \mathbf{S}$ that share the (same) past (with regard to a present time t_0), but describe different possible futures, i.e.
$\exists\, t_0 \in T, S_1, S_2 \in \mathbf{S}\ (S_{1\,|\,(-\infty,\,t0)} = S_{2\,|\,(-\infty,\,t0)} \wedge S_{1\,|\,(t0,\,+\infty)} \neq S_{2\,|\,(t0,\,+\infty)})$. (~D)

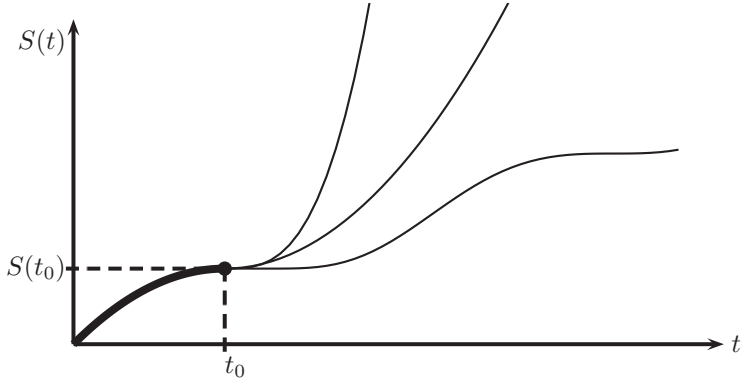

Figure 2: Modelling indeterminism

The idea of indeterminism is depicted in Figure 2: here the present and the laws together do not unambiguously fix the future course of events. Instead, the present entails a bunch of possibilities concerning the future course of events, out of which, of course, only one can be actualized.

The difference between deterministic and indeterministic worlds becomes obvious when comparing Figure 1 and 2. While sharing the same past, the (open) future in an indeterministic world can significantly differ from the (fixed) future in a deterministic world.

(21) Libertarianism[8] is the thesis that free will, or more accurately (18a), can only be realized if (~D).

Finally, we are left with the question whether indeterminism rules out any time theories. To answer this question, we first must clarify how to use the notion of time. However, instead of giving a definition

that once occurred the past is fixed, i.e. there is exactly one law-like function describing the past. Therefore, (D_{past}) also applies to the past in an indeterministic world.

[7] In the case that the eternalist has some doubts whether the asymmetry between our description of past and future world states excludes eternalism by definition, she can, of course, define indeterminism without restricting the unfixity of world states to the future. All proofs in Section 3.1 and 3.2 apply *mutatis mutandis*.

[8] For a similar definition see Van Inwagen (2002) and Van Inwagen (2008).

of what time *simpliciter* is, I suggest that, without loss of essential details, we only consider what it means to be a temporal event (or entity). This restriction has the convenient feature of not affecting the validity of the very argument, while at the same time evading the problem of whether it makes any sense to speak of the existence of time *simpliciter*.

In an illuminating recent essay, Dean Zimmerman formulated two questions 'lying at the heart of the deepest metaphysical disagreement about the nature of time' (Zimmerman 2008), these are, if there are objective differences between what is past, present, and future, and if this difference is an ontological one. Following McTaggart's terminology, those who deny both questions affirm the priority of B-relations (*being earlier, being later*, and *being simultaneous*), while considering A-properties (*being past*, *being present*, and *being future*) to be derivative. In affirming both questions, A-theorists, on the other hand, believe that A-properties are fundamental and B-relations derivative. Transferring these two questions into our context, we face the problem of (i) whether there is a difference between past, present, and future events, and (ii) if this difference is an ontological one. I claim that if libertarianism (21) is true, both questions need to be affirmed.

To see this, let us first formulate the relation between a present (or past) event E_t at the present (or past) time t and the state of the world s_t at t. Clearly, the state of the world s_t corresponds to a family (or set) of events $E^{(1)} \ldots E^{(n)}$ constituting s_t, i.e. $s_t = \{E^{(1)} \ldots E^{(n)}\}$. On the other hand, the uniqueness of the present and the unalterability of the past (D_{past}) imply that for a present (or past) time t there is at least one present (or past) event E_t which corresponds to exactly one present (or past) state of the world s_t, i.e.

$$\forall t \in (-\infty , t_0] \, (\exists \, E_t : \exists_1 \, S \in \mathbf{S} \, (E_t \in s_t = S(t))) \qquad (**)$$

as otherwise we could find two *different* law-like functions $S_1, S_2 \in \mathbf{S}$ both describing the same present (or past) state of the world s_t. Accordingly, the graphs of these functions would intersect in t. This, however, would be a contradiction to both the uniqueness of the present and the unalterability of the past that exclude such an intersection. This, in turn, means that such a single present (or past) event E_t is sufficient to fix s_t, insofar as there is exactly one present (or past) state of the world s_t corresponding to E_t.[9]

Now, recall that according to (21), (~D) is a necessary condition for someone to satisfy (18a), and suppose that (~i). Then we can arbitrarily

choose an event E_t (happening at time *t*) to be a present event. However, from (**) we know that there is at least one E_t such that the state of the world s_t is uniquely defined via E_t. Since *t* is arbitrarily chosen, this conclusion is valid for each *t*, implying (D_{past}) and (D_{future}). Thus (D), and therefore (~21).

Let us assume that (i) but (~ii). That means, although A-properties are fundamental, there is nevertheless no ontological difference between a past event, a present event, and a future event. Yet, if all future events exist in the same way as present events, there is a unique corresponding future state of the world, and this for any future times. Again, the conclusion implies (D), and thus (~21).

To sum up, if one affirms (21), one must at the same time affirm both (i) and (ii). Because of (18a), libertarianism rules out all B-theories of time and all A-theories of time denying (ii). Consequently, the only time theories compatible with (21) are presentism, stating that only present events exist, and growing block theory, stating that only past and present events exist. For the sake of simplicity, in what follows I consider only presentism. Note, however, that the argument applies to growing block theory as well.

3.2 Existence: eternal vs. temporal

Having clarified the main concepts involved, in what follows, I shall argue that the Anselmian view of eternity as defended by Leftow fails. Whereas most critics question Leftow's presumptions, I develop my counterargument while accepting the presumptions and criticizing the conclusion.

First, suppose that libertarianism is true, and thus, (~D) is true, and consider an arbitrary temporal frame of reference R, as defined in (12). In a first step, I show that

(22) for (at least) one future event E_t in R there can be no temporal frame of reference R* in which this event B-occurs.

[9] More exactly, the relation between E_t and s_t can be modelled this way: For a present (or past) event E_t described through (**) we can define the (selection) function $E_t : \mathbf{S} \rightarrow \{0, 1\}$, where $E_t(S) = 1$ iff $E_t \in s_t$, that means, E_t 'selects' the law-like function $S \in \mathbf{S}$ the value of which at *t* represents the actual state of the world s_t entailing E_t. From (**) it follows that there is exactly one such law-like function *S*, i.e. $|\{E_t(S) = 1\}| = 1$. To ensure coherence with the past, at the same time we have to demand that $\forall S \in \mathbf{S}\ (E_{t'}(S) = E_t(S)$ if $t' < t)$.

If for all future events E in R there is a frame of reference R* such that E B-occurs in R*, then from (**) it follows that for any future time *t* in R the state of the world s_t is uniquely fixed, and thus (~21), as shown in section 3.1. Now, consider such a future event E in R. Being a temporal event in a temporal frame of reference R, E can only be defined in dependence of a time variable *t*, i.e. $E = E_t$; more exactly, as a temporal event, $E = E_t$ is the value of a time-function at *t*, i.e. $E_t =_{df} E(t)$. On the other hand, E_t is supposed to correspond to an event ε which A-occurs in the eternal frame of reference (defined in 11) R_{et}. Accordingly, ε can only be defined in dependence of this additional eternal dimension (henceforth denoted by e), that means, an eternal event is the value of a function at e, i.e. $\varepsilon = \varepsilon_e =_{df} \varepsilon(e)$.[10] However, this leads us to two different concepts of existence, existence in time and existence in eternity. As pointed out above in section 2, Leftow does not worry about these different concepts of existence, because he believes that it is a single event existing in two different modes, in time and in eternity. I will argue that this is, in fact, *not* the case.

To begin with, let us work out the concept of these two different concepts of existence more exactly. According to Leftow's definition, here quoted in (11), an event ε exists in an eternal frame of reference R_{et} iff ε A-occurs in R_{et}, i.e.

(23) ε *et*-exists iff $\exists R_{et} (\varepsilon_e \wedge e = now_{Ret})$. (*et*-existence)

From (12) it follows that an event E exists in a temporal frame of reference R iff E B-occurs in R, i.e.

(24) E *temp*-exists iff $\exists R (E_t \wedge t = now_R)$. (*temp*-existence)

Prima facie, it is not evident that an eternal event and a temporal event do represent the same event, so that we are justified in speaking of two different modes of existence with regard to a single event. More than that, I will now argue that it is impossible for God to know if an eternal event represents a temporal event.

Let us first identify the necessary conditions for an eternal event ε to represent a temporal event E. To this end, let **E** be the set of all eternal events, i.e. $\mathbf{E} = \{\varepsilon : \varepsilon \textit{ et}\text{-exists}\}$, and **T** the set of all temporal events, i.e. $\mathbf{T} = \{E: E \textit{ temp}\text{-exists}\}$. Clearly, an eternal event need not have a temporal

[10] Henceforth, Greek letters denote events (entities, or properties) in eternity, while Latin letters denote events (entities, or properties) in time.

counterpart; if an eternal event does not have a temporal counterpart, it is a purely eternal event. That is to say,

(25) there is a subset **E'** $\subset$ **E** of eternal events the elements of which represent a temporal event, i.e. E' = {ε : ε $\in$ **E** and ε has a temporal counterpart}.

On the other hand, a necessary (yet not sufficient) condition for an eternal event to represent a temporal event is that if an eternal event has a temporal counterpart, then it has exactly one. For if a single eternal event corresponds to different temporal events, God would falsely believe that two different temporal events are the same.[11] This means,

(26) each ε $\in$ **E'** represents exactly one temporal event E $\in$ **T**, and therefore there is an injective map from **E'** to **T**.

Arguably,

(27) each temporal event E $\in$ **T** is represented by an eternal event ε $\in$ **E**.

For a temporal event without an atemporal counterpart would be a temporal event that God does not know. Given an omniscient God, such a temporal event can, of course, not exist. Moreover,

(28) each temporal event E $\in$ **T** is represented by exactly one eternal event ε $\in$ **E'**, and therefore there is a surjective map from **E'** to **T**.

For if a temporal event had more than one atemporal counterpart, God would falsely believe that there are different temporal events. From (26) and (28) it follows that

(29) there is a bijective map (or one-to-one correspondence) *b*: **E'** $\rightarrow$ **T**, ε $\rightarrow$ b(ε).

However, (24) implies that

(30) by definition, for each b(ε) we can find a temporal reference frame R* such that b(ε) = E_{nowR^*}.

Now, let E' be a future event in a temporal reference frame R. From (29) we know that there is exactly one eternal event ε' such that E' = b(ε').

[11] Note that this condition is a very weak one: it does not imply numerical identity as identity condition, but must hold for any definition of identity.

Yet, (30) states that we can find another temporal reference frame R* such that E' B-occurs in R*, i.e. E' = b(ε') = E_{nowR^*} . Obviously, this is a contradiction to (22). Therefore, there cannot be a correspondence between temporal events and atemporal events (as defined in 29)[12] so that it is impossible for God to know if an eternal event represents a temporal event. Simply put, Leftow's argument fails, insofar as events described by (22) are not cognitively accessible for God. This sits ill with God's cognitive perfection.

IV. CONCLUDING REMARKS

In this paper, I argued that libertarian free will and divine timelessness are incompatible when modelling eternity (understood as God's date of existence) as an additional, atemporal reference frame. My main argument boils down to the claim that God cannot have cognitive access to (ontologically) indeterminate temporal events if he at the same time wants to preserve the possibility of alternate choice concerning these events.

In drawing my conclusions, it seems essential to point out which questions my argument still leaves open: Clearly, it cannot be inferred from my argument that divine timelessness *simpliciter* is a badly defined concept. Nor implies my argument that asserting God's atemporality automatically rules out libertarian free will. Contrarily, I simply have shown that we cannot have it both ways when modelling eternity as an additional, atemporal reference frame. Therefore if libertarianism is true and God is not in time, we are in need of a new model reconciling both facts.

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[12] A similar argument has been suggested by Garrett DeWeese; cf. DeWeese (2004: 179–84). However, DeWeese's argument seems to miss the point; clearly, it fails when determinism is true. Recall that for my argument to work, (22) is a necessary condition which is given only if (~D) is true. Moreover, even if indeterminism is true, that possible futureR events only exist in eternity and not yet exist in the temporal frame of reference R poses no problem for Leftow's model, since – as Leftow argued by way of introducing so-called P-series – actuality in one frame of reference need not entail actuality in any other frame of reference. Contrarily, the very problem for Leftow's model consists in the fact that – as I have shown – it is impossible for God to know which possible event will be actualized in time.

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