Divine foreknowledge, time and tense

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If God's omniscience entails knowing all things, including those that did not occur yet, how is it possible that humans act freely? This very much discussed old question had a sudden revival with Nelson Pike's paper fifty years ago. In this paper we provide an analysis of the argument for "theological fatalism" under the light of some assumptions about the structure of time and the semantics of tensed sentences.

We present, in particular, Prior-Thomason semantics for indeterminist time (second section). This semantics motivates the distinction between time of evaluation and *perspective* which, we argue, is required for an appropriate definition a truth-predicate in the context Prior-Thomason semantics. Third section shows how the previous language and semantics can be used to formalize the argument for theological fatalism. The argument thus formalized is quite robust and we argue that the only way to scape its conclusion makes essential use of the distinction between time of evaluation and perspective which was independently motivated in the previous section. We intend to show that this solution to the argument is a precise way to implement the *God as timeless* solution, making this a live option in this debate.

1 The argument for theological fatalism

Suppose Jones mowed his lawn last Saturday and God foreknew that. Then, at some point before Saturday, say on Thursday, God believes that Jones will mow his lawn on Saturday. Then Jones' ability to refrain from mowing his lawn before Saturday, say on Friday, is either (a) the ability of making God having a false belief or (b) the ability to influence on someone's past beliefs or (c) the ability to turn into non-existence someone who existed in the past. Neither of (a) to (c) describes a real ability of Jones'. Therefore either Jones does not have the ability to refrain from mowing his lawn on Saturday or God does not foreknow that Jones will mow his lawn on Saturday (see Nelson Pike's [14]).

Pike's argument share a strong affinity with previous arguments on the incompatibility of foreknowledge and future contingency and arguments about the incompatibility of truth and future contingency [17, 113-7]. We formulate the argument making use of the following abbreviations,

J = Jones mows his lawn
$\boxdot A$ = It is *accidentally necessary* that A
$\Box A$ = It is necessary that A
$[G]A$ = God believes A

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$t_n : A = A$ occurred in time t_n

Accidental necessity corresponds to the idea of the fixity of the past: it's not necessary that Caesar crossed the Rubicon but once he did, there's nothing we can do today to change that it happened. The new version of the argument makes use, in addition, of the following principles (some extra parentheses added for readability):

NP $t_n : A \vDash \boxdot(t_n : A)$ (for any $n < p$ where t_p is present time)

EO $\Box(t_n : [G]A \supset A)$ (for any n)

TN $\boxdot A,\ \Box(A \supset B) \vDash \boxdot B$

The first principle NP expresses the "necessity of the past": that anything that already occurred is accidentally necessary (that occurred). The second, EO, expresses the (tensed) essential omniscience of God: if God believes A (at any time n) then A. The third, TN, is the principle of *transfer of necessity* according to which if A is accidentally necessary and necessarily if A then B, it follows that B is also accidentally necessary. Making use of these principles, the reformulation of Pike's argument run as follows:[1]

1. $t_0 : [G](t_2 : J)$ [Assumption]
2. $\boxdot(t_0 : [G](t_2 : J))$ [From 1 by NP]
3. $\Box(t_0 : [G](t_2 : J) \supset t_2 : J)$ [Instance of EI]
4. $\boxdot t_2 : J$ [From 2, 3 by TN]

Now if it is accidentally necessary that Jones will mow his lawn at t_2, then he cannot do otherwise.

2 Time: structure and semantics

In this section we talk about the structure of time and the semantics for tensed sentences. We make a number of choices about these questions corresponding, mostly, to the semantics and logics defended in [20].[2] We will give a reason for each choice we make although we don't intend to settle the question about each such issue.

[1]The argument in the text is a formalization of steps (1) to (6) of the argument in [22, sec. 1]. The argument seems to go back to, at least, the American philosopher Jonathan Edwards as reported by Prior in [17, 113-4].

[2]I discovered, after writing much of this paper, that [4] also make use of the formal framework of Thomason to discuss the question of foreknowledge. Although we share strong affinities in the philosophical background, the discussions are quite different in, at least, two respects. We both add further structure to Thomason's semantics, but they add a dynamic view of models that interact with a "NOW" operator whereas I intend just to see how to define a truth-predicate coherent with Thomason's semantics. Second, the scope of the paper is different for, whereas theirs discuss a broader range of topics, this paper restricts the attention to Pike's argument.

The language we will be dealing with is a propositional language containing classical connectives $\neg, \vee, \wedge$ and $\supset$ and tense operators $\langle + \rangle, \langle - \rangle, [-]$ and $[+]$. $\langle + \rangle A$: informally reads "it will be the case that A", that is, "A takes place at some future instant" and similarly for the other tense operators.

An interpretation a structure $\langle T, <, [\![\cdot]\!] \rangle$ where,

$T \not\equiv \emptyset$

$<$ is a tree-order on T

$[\![\cdot]\!]$ is a function : $Var \times T \longrightarrow \{0, 1\}$

A (strict) partial order $<$ on T is a relation between the elements of T that is irreflexive and transitive. Such an order is a tree-order on T if, in addition, for any t, t' and t'' if $t' < t$ and $t'' < t$ then either $t' < t''$ or $t'' < t'$. This last condition amounts to the idea that a tree-order is a partial order that is "linear to the left". This idea, in turn, seem to capture the intuitive asymmetry between past and future: that for any $t \in T$ there is a set H_t of histories containing t; these histories agree up to t and possibly disagree after t. (A *history* is a subset $T' \subseteq T$ that is linearly ordered by $<$; what it is sometimes called a *maximal chain*.) The tree-order, therefore, seem to rule out *Ockhamist solutions*.[3]

The function $[\![\cdot]\!]$ is a bivalent assignment of truth-values to propositional variables relative to each $t \in T$. We need to explain now how a given interpretation extends to complex formulas. Given that the same time t might belong to multiple histories, the truth-conditions for a formula A will be relative, not just to a given time t but also to a given history h such that $t \in h$:

- $[\![\neg A]\!]^h_t = 1$ just in case $[\![A]\!]^h_t = 0$
- $[\![A \wedge B]\!]^h_t = 1$ just in case $[\![A]\!]^h_t = [\![B]\!]^h_t = 1$
- $[\![\langle - \rangle A]\!]^h_t = 1$ just in case $\exists \mathtt{t} \in h$ such that $\mathtt{t} < t$ and $[\![A]\!]^h_{\mathtt{t}} = 1$
- $[\![\langle + \rangle A]\!]^h_t = 1$ just in case $\exists \mathtt{t} \in h$ such that $t < \mathtt{t}$ and $[\![A]\!]^h_{\mathtt{t}} = 1$

This semantics works fine for either classical or '$\langle - \rangle$' operators but there is an issue with '$\langle + \rangle$' formulas. Since a tree-order might be *non-linear to the right*, a formula '$\langle + \rangle$A' might receive different truth-value relative to different histories. Now if '$\langle + \rangle A$' is true in t relative to history h $[t \in h]$ and false relative to h' $[t \in h']$, what is the final truth-value of '$\langle + \rangle A$' in t? Thomason's strategy [20, 272] is considering that, in such a case, the formula is neither true nor false.[4]

A *supervaluation* is a partial valuation based on a set of complete valuations. A time t determines a set H_t of histories (the set of histories that *pass over* t). Each history $h \in \mathsf{H}_t$, in turn, provides a complete valuation for formulas of the language (including '$\langle + \rangle$' formulas) relative to time t. For this reason, the tree-like structure of time is a natural context to define a supervaluation:

[3] See [18], [15], [1], [7], [9], [16], [6].

[4] Alternatively, we could consider that it is *both true and false*. The dual theory of supervaluationism has precisely this effect; see [3] for an introduction to subvaluationism.

A is *supertrue* at time t just in case for all $h \in \mathsf{H}_t$, $[\![A]\!]^h_t = 1$.

In general, logical consequence is a matter of necessary preservation of truth. Since our relevant notion of truth is that of *supertruth*, logical consequence is defined accordingly (the subscript PT is for Prior-Thomason $t$ense logic):

$$\Gamma \vDash_{PT} A \text{ just in case, there is no interpretation } \langle T, <, [\![\cdot]\!]\rangle \text{ with } t \in T \text{ such that:}$$

$$\forall h \in \mathsf{H}_t \; \forall B \in \Gamma,\; [\![B]\!]^h_t = 1 \quad \wedge \quad \exists h \in \mathsf{H}_t \; [\![A]\!]^h_t = 0$$

In words, an argument is valid just in case there is no interpretation and time t such that all premises are supertrue and the conclusion is not.

A characteristic feature of supervaluationism in general is that it makes compatible classical logic with truth-value gaps.[5] In the case of Prior-Thomason's temporal logic supervaluationism comes with some additional validities,[6] one of which is the following inference:

$A \vDash_{PT} [-]\langle+\rangle A$

For suppose A is true in actual time t. Then $\langle+\rangle A$ is true in any time $t' < t$ of any history $h \in \mathsf{H}_t$; that is, $\langle+\rangle A$ is supertrue at any such time t' (relative to the set of histories H_t).

Note that the validity of this inference involves a strong form of truth-relativism. It is well known that the truth of a sentence might be relative to a context of utterance. The sentence 'I am a smart philosopher' might be false when uttered by me but true when uttered by you. The reason for this shift in truth-value is that part of the content of the sentence is fixed by contextual factors and, therefore, each utterance of the sentence expresses a different content. The form of truth-relativism involved in the validity the inference above, however, is more radical. If on Friday I utter 'Jones will mown his lawn tomorrow', what the sentence says is on Friday and from my perspective on Friday, untrue. If on Saturday Jones mows his lawn, what the sentence says is true on Friday, from my perspective on Saturday.

This form relativity is, in fact, what invokes Thomason to distinguish the notion of *supertruth* from the notion *unavoidability*. Given the previous structure of time and the semantics for tensed sentences, it is natural to define the notion of *unavoidability* this way [20, 275] (where '$\mathbb{U}A$' stands for 'A is unavoidable'):

$$[\![\mathbb{U}A]\!]^h_t = 1 \text{ just in case } \forall h' \in \mathsf{H}_t \; [\![A]\!]^{h'}_t = 1$$

As Thomason points out, under this definition *truth* seems to collapse with *unavoidability* since the definition of $\mathbb{U}$ seems to mirror in the object language the definition above of *supertruth*. Furthermore, the following pair of inferences are valid:

- $\mathbb{U}A \vDash_{PT} A$
- $A \vDash_{PT} \mathbb{U}A$[7]

[5] In addition to Thomason's paper [21] and [5] are classical examples of the application of supervaluationism in different contexts. See [10] for a more contemporary defense of supervaluationism.

[6] The validity of $\langle+\rangle A \vee \langle+\rangle\neg A$ is a particularly nice example.

[7] The inferences don't entail the triviality of $\mathbb{U}$ because of a failure of the deduction theorem; in particular, $\nvDash A \supset \mathbb{U}A$.

Thomason, however, argues that, despite initial appearances, truth and *unavoidability* (or *inevitability* as he says) are different. He seeks to show this difference defining a new operator $\mathbb{T}$ for *truth*:

$$[\![\mathbb{T}A]\!]_t^h = 1 \text{ just in case } [\![A]\!]_t^h = 1 \qquad [20, 278]$$

This is a transparent truth-predicate, allowing for full substitutivity between A and '$\mathbb{T}A$'. This means, among other things, that the inference: $A \vDash_{PT} [-]\mathbb{T}\langle+\rangle A$ remains valid. However, the corresponding inference involving $\mathbb{U}$: $A \nvDash_{PT} [-]\mathbb{U}\langle+\rangle A$ is not. With this different logical behavior, Thomason nicely puts the subtle difference between truth and unavoidability:

> Our theory thus allows (indeed forces) us to say that *having been true* is different from *having been inevitable*, as far as future-tensed statements go. The latter is not a consequence of the former, $[-]\mathbb{T}\langle+\rangle A \nvDash_T [-]\mathbb{U}\langle+\rangle A$, because in an assertion that it was *true* that a thing would come about, truth is relative to events up to the present, whereas in an assertion that it was *inevitable* that a thing would come about, inevitability is judged relative to some time in the past. (p. 279)

I think this explanation hits the nail on the head. I don't think, however, the previous characterization of the notion of truth (the definition of $\mathbb{T}$) is coherent with the full story. The definition has the advantage of substitutivity, which is often considered a desiderata for a theory of truth,[8] but it betrays the original spirit of supervaluationism as motivated by truth-value gaps. The notion of truth in the semantics (the notion of *supertruth*) employed to handle the issue of indeterminist time, allows for truth-value gaps. It would then be reasonable to think that if $\langle+\rangle A$ is neither supertrue nor superfalse, the statement '$\langle+\rangle A$ is supertrue' is false. However, '$\mathbb{T}\langle+\rangle A$' and '$\langle+\rangle A$' share identical truth-conditions in the above characterization and, therefore, '$\mathbb{T}\langle+\rangle A$' is neither supertrue nor superfalse if '$\langle+\rangle A$' is. In short, $\mathbb{T}$ is not an object language expression of *supertruth.*[9]

Despite this fact, I think the explanation of the difference between truth and unavoidability in the quotation above is correct. The driving idea is the following. The evaluation, in a given time, of a sentence containing tense operators requires moving forwards or backwards along the time structure. If times are linearly ordered, there is a single relevant history and the "movement" in search of times for evaluation reduces always to that history. If time has a tree-like structure, the point at which we start the evaluation, what we might call the *perspective*, determines the histories relevant for the evaluation of the sentence. The sentence "Jones will mow his lawn" is neither true nor false on Friday, when Friday is the starting point of evaluation (when Friday is the perspective). The sentence "Jones will mow his lawn" is true on Friday, when Saturday is the perspective.

The idea can be expressed in a more formal style saying that, in tree-like structures, the evaluation of tensed sentences involves a double reference to times[10] One of the reference times

[8] See [12]

[9] Perhaps Thomason is aware of this question and that's the reason why he speaks of formalizing a locution '... *was* true' (italics mine) intending to restrict the application of the truth predicate $\mathbb{T}$ only within the scope of a past tense operator.

[10] This idea of double-time-reference is explicitly endorsed and defended in [2] and [13]. These authors, however, reject the supervaluationist treatment of future contingent statements.

is the time at which we evaluate a given sentence (what we will call the *evaluation time*), the second reference time is the perspective.

In the previous semantics, we made explicit reference to the evaluation time, but we didn't do the same with the perspective. The reason, I think, is that we tend to take for granted that the perspective, the time at which the evaluation process begins, is identical with the time at which the sentence under evaluation is uttered, the time of assertion (see [13]). This makes perfect sense. As temporal beings, our actions, and particularly speech acts like assertions, take place in a particular time and are therefore connected to a particular perspective. It is not unthinkable, however, that perspective and time of assertion be different, as we shall point out later.

Given the previous remarks, we redefine the truth predicate as relative to a perspective and also redefine unavoidability accordingly.

$$[\![\mathbb{T}A]\!]^{h}_{t\ [p]} = 1 \text{ just in case } \forall h^* \in \mathsf{H}_p\ [\![A]\!]^{h^*}_{t\ [p]} = 1$$

$$[\![\mathbb{U}A]\!]^{h}_{t\ [p]} = 1 \text{ just in case } \forall h^* \forall p^* (t \leq p^* \wedge h^* \in \mathsf{H}_{p^*} \supset [\![A]\!]^{h^*}_{t\ [p^*]} = 1).$$

The intended meaning of this truth operator is the following: a sentence A is true, relative to a given perspective p, just in case A is "settled" according to that perspective. Following our example, the statement 'It is true that Jones will mow his lawn' is *false* from Friday's perspective but true from Saturday's perspective. The definition of *unavoidability* intends to register the fact that, unlike truth, this notion is relative to the time of evaluation (as Thomason points out 'inevitability is judged relative to some time in the past.') and hence the predicate takes into account all histories from the time of evaluation on. $\mathbb{T}$ and $\mathbb{U}$ are certainly similar in that both are defined relative to a set of histories, but might differ in exactly what set. That set is guaranteed to be the same when time of evaluation and perspective coincide but not otherwise.

Summing up, we have the following properties of time and tensed sentences that might help our analysis of the problem of divine foreknowledge. First, time need not be linearly ordered but have a tree-structure; this fact will help us to understand the ideas of the fixity of the past versus the openness of the future. A sensible approach to the open future is provided by Thomason's supervaluations about histories; in this approach a proposition might be untrue in time t under a given perspective but true in the same time t under some other perspective. An adequate semantics for a tensed language including a truth predicate, therefore, should appropriately distinguish between the time of evaluation of a given sentence and the perspective. With this ingredients we also redefined the notion of *unavoidability* as linked to the time of evaluation.

3 Foreknowledge and free will

The argument for theological fatalism, as stated above, has the following shape,

1. $t_0 : [G](t_2 : J)$ [Assumption]
2. $\boxdot(t_0 : [G](t_2 : J))$ [From 1 by NP]

3. $\Box(t_0 : [G](t_2 : J) \supset t_2 : J)$ [Instance of EI]
4. $\boxdot t_2 : J$ [From 2, 3 by TN]

The principles used in the argument correspond to *necessity of the past*, God's *essential omniscience* and the *transfer of necessity*,

NP $t_n : A \vDash \boxdot(t_n : A)$ (for any $n < p$ where t_p is present time)

EI $\Box(t_n : [G]A \supset A)$ (for any n)

TN $\boxdot A,\ \Box(A \supset B) \vDash \boxdot B$

The first target of this section is adapting the argument to the language employed in section 2. The issue has its difficulty because the argument, as stated above, makes use of indexes for times and that is something that brings us beyond the expressivity of a simple modal language. I propose considering just two times: a present time (the time of God's beliefs about Jones) and a future time (the time at which Jones mows his lawn). In this way we can make use of the simple future tense in order to talk about Jones' future action.

1. $[G]\langle + \rangle J$ [Assumption]
2. $\boxdot([G]\langle + \rangle J)$ [From 1 by NP]
3. $\Box([G](\langle + \rangle J) \supset \langle + \rangle J)$ [Instance of EI]
4. $\boxdot\langle + \rangle J$ [From 2, 3 by TN]

The next task is finding an appropriate characterization of the principles used in the argument, that is, finding appropriate interpretation for '$\Box$' and '$\boxdot$'. The first, I think, is more straightforward. $\Box$ is invoked as a strong form of necessity (Pike claims that the necessity in question is a form of analyticity [14, 35]). In the context of branching time this amounts to the idea that $\Box A$ is true at time t and history h just in case it is true *everywhere* (at any time of any history). This is, at least, the strength of analytic necessity.

The case of $\boxdot$ is harder. It is generally agreed in discussions concerning Pike's argument that at least part of the problem is how can we, with actions in present time, be able to change facts about the past. So the idea seems to be: if something happened, then it does not matter how the world evolves, it won't be the case that it didn't happen. This is partially captured by the inference:

$$A \vDash [+]\langle - \rangle A$$

which informally reads: if A is true, then it will always be true that A was true. The proposal is then reading accidental necessity in this way:

$$\boxdot A =_{df} [+]\langle - \rangle A$$

Now this interpretation is not fully faithful to the idea of the necessity of the past in a, I want to argue, harmless way. The idea of the necessity of the past involves reference to a particular time: if A took place at time t in the past, then it will always be the case that A took place **at time** t. The inference above only states that if A is true, it will always be true that it was (but not necessarily at the same past time). This difference rests crucially in a expressive limitation of our simple modal language; the difference, however, is harmless in the sense that we can add some information to reach a similar effect to that of naming times. Suppose for example that I want to express that it is accidentally necessary that Jones mown his lawn (due to the fact that Jones is now doing that). Then I can write $\boxdot J \wedge \neg\langle -\rangle J$. In this case, if $\boxdot J$ is true, that is due to something that is happening today. We can see this strategy as a way to force J refer to the relevant fact (a fact that is happening today) without explicit naming of times.

Given the above qualifications, the final shape of the argument is the following,

0.	$\neg\langle -\rangle J \wedge \neg J$	
1.	$[G]\langle +\rangle J$	[Assumption]
2.	$\boxdot([G]\langle +\rangle J)$	[From 1 by NP]
3.	$\Box([G](\langle +\rangle J) \supset \langle +\rangle J)$	[Instance of EI]
4.	$\boxdot\langle +\rangle J$	[From 2, 3 by TN]
5.	$\mathbb{U}\langle +\rangle J$	[From 0 and 4]

We added premise 0 for the reasons just given; in that way, we guarantee that if $\langle +\rangle J$ is accidentally necessary, that is due to something that is happening in the immediate future (and not, for example, because J already occurred in the past). Steps 1 to 4 are based on a rewriting of the principles above according to our previous remarks on $\Box$ and $\boxdot$,

NP $A \vDash [+]\langle -\rangle A$

EI $\vDash \Box([G]A \supset A)$

TN $[+]\langle -\rangle A,\ \Box(A \supset B) \vDash [+]\langle -\rangle B$

The principle of *necessity of the past* is valid, so that proposition (1): 'God knows J', entails proposition (2): 'it will always be true that God knew J'. Our interpretation of $\Box$ as *true everywhere* is strong enough to guarantee the validity of *transfer of necessity*, since the truth of $[+]\langle -\rangle A$ and the falsity of $[+]\langle -\rangle B$ at the same time t require some time t' where A is true and B false, contrary to the truth of $\Box(A \supset B)$.[11] The final step, from 0 and 4 to 5 is, once again, valid.[12] Informally, if J is not true today, nor in any past time (assumption 0: $\neg\langle -\rangle J \wedge \neg J$), then that $[+]\langle -\rangle\langle +\rangle J$ is supertrue means that all future histories contain one

[11] Here is a more detailed explanation. Suppose there is some time t at which $[+]\langle -\rangle A$ and $\Box(A \supset B)$ are supertrue but $[+]\langle -\rangle B$ is superfalse. According to the last, for any history $h \in \mathsf{H}_t$ there is some time $t < t'$ such that $\langle -\rangle B$ is false in t'; this last in turn means that B is false at all times prior to t'. Call h^* to any such history. Since $[+]\langle -\rangle A$ is supertrue at t, it is true, in particular, relative to history h^*. Therefore, at time t' $\langle -\rangle A$ is true and this requires a time $t'' < t'$ such that A is true in t''. But by what we said above B is false at t'' and, therefore, the conditional $A \supset B$ is also false at t'', contrary to the assumption that $\Box(A \supset B)$.

[12] The validity of this step rests on Thomason's supervaluationist version of Prior's logic; that inference might not be valid without the assumption that the property preserved by logical consequence is *supertruth*.

immediately succeeding time where J, in which case $\mathbb{U}\langle + \rangle J$, it is unavoidable that Jones will mow his lawn.

If we endorse Thomason's semantics from section 2 and the interpretation given for $\Box$ and $\boxdot$, then, as far as I can see, the only way left to question the soundness of the argument is questioning the characterization of God's *essential omniscience* EO. This, I think, can be done on the grounds of the relativity of truth to a perspective.

If what we called the perspective coincides with the time of assertion then we have $\vDash \mathbb{T}A \supset A$ (and also that $\mathbb{T}A \vDash A$). We might view this inference expressing the idea that truth is *factive*: if A is true, then A is a fact. Factivity, in turn, entails unavoidability: $A \vDash \mathbb{U}A$. Now the validity of factivity of truth rests crucially in the idea that the perspective of truth coincides with the perspective at the time of assertion, to which logical consequence is connected. But we can think on a situation where the truth-predicate and the time of assertion do not share the same perspective, that of time travel. When old Tannen gives the Sports Almanac to young Tannen in 1954 what he asserts is true, but not relative to young Tannen's perspective (not relative to the time of assertion, which is some point in 1954).[13] Old Tannen insist that it is true that the UCLA will win the mach, but this does not entail that it is *a fact* (that it is true relative to that point in 1954). In short, the inference 'It is true that A therefore A' is guaranteed to hold when the perspective of truth coincides with the perspective of assertion (implicit in logical consequence) but not if it is some future perspective, like that of a time-traveller. I want to suggest that this is the situation when we consider God's knowledge about the (our) future. God's knowledge of A, when A refers to some future event relative to us, need not entail A (as stated in EO above) but only that A is true (true, relative to the divine perspective).

- $\vDash [G]A \supset \mathbb{T}A$

The idea of truth relative to a perspective provides a nice way to characterize the difference between truth and unavoidability. From a given perspective, it is true on Friday that Jones will mow his lawn and, still, it is not unavoidable on Friday that Jones will mow his lawn. This difference makes room for the idea of God's knowing that Jones will mow his lawn, making true the statement without making the corresponding action unavoidable. We want to stress that the relativity of truth to a perspective is not an *ad hoc* maneuver to address Pike's argument, rather, it emerges from independent considerations about the logic and semantics of tensed sentences.

The considerations so far leave still open much questions about the nature of time and its connection to the truth of tensed sentences. I want to point out just that the foregoing picture about God's omniscience is congenial with some classical ideas about why God's knowledge of our future does not determine contingent facts.

According to some authors like Anselm, Boethius, Aquinas and Schleiermacher (see [14, 29]) God's eternality should be understood as God's existing "outside time" so that it cannot be properly said that God knows *now* what will happen. The problem about God's foreknowledge and determinism, therefore, is rooted to the fact that it cannot be properly said that God *fore*knows the future, that has some knowledge in advance, because that would be mistakenly attributing temporal properties to God. I think this line of thinking is attractive and it was very popular in the past, but it lost support in the recent debate ([8] catalogs this as one of

[13] The example comes from the second part of Robert Zemeckis' *Back to the future.*

the "minor" solutions to the problem).[14] I see a fundamental reason for this decline: the view of God as timeless seems to make impossible almost all, if not simply all, human theological discourse. As temporal beings, we cannot make assertions outside time and we make assertions with the intention of reaching the truth. If we say "God is Holy" we would be mistakenly attributing to God holiness today. The foregoing remarks about relative truth and omniscience may serve, I think, to reconcile God's timelessness with the temporal dimension of our acts in general and with assertions in particular. God does not properly *fore*knows what will happen, He knows them from a peculiar perspective. But we can consistently say that God knows today that Jones will mow his lawn, the sense in which God knows *in advance* being just a reflection of our limited perspective.

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[14] See, however, [19], [11] and [4].