

Robin Le Poidevin, editor, *Questions of Time and Tense* (Oxford: Oxford University Press, 1998), xii + 293 pp.

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1 Introduction

Some people think that *pastness*, *presentness* and *futurity* (and their metric variants, such as *being two days past*) are genuine properties of times and events. These putative properties are sometimes called “A properties” and the philosophers who believe in them are often called “A Theorists.” Other philosophers don’t believe in the reality of A properties, but instead say that talk that appears to be about such properties is really about “B relations”—two-place temporal relations like *earlier than*, *simultaneous with*, and *later than* (together with their metric variants, like *two days earlier than*). The latter philosophers are often called “B Theorists,” and the debate between A Theorists and B Theorists has dominated the philosophy of time since 1908.¹ The two views can be put this way.

The A Theory: There are genuine, irreducible A properties; talk that appears to be about A properties is not analyzable in terms of B relations.

The B Theory: There are no genuine, irreducible A properties; talk that appears to be about A properties is analyzable in terms of B relations.

Questions of Time and Tense is an excellent collection of papers (all but one published here for the first time) that will be of great interest to anyone concerned with The A Theory/B Theory controversy. It also contains papers touching on such topics as presentism and non-presentism, endurance and perdurance, analogies between temporal and modal issues, relativity and space-time, the infinity of time, time and freedom, moral obligations to future individuals, the question of whether God should be thought of as in time, and

questions about time and fiction. So the book will also be of great interest to anyone working in contemporary metaphysics. The contributors are Piers Benn (whose paper is titled “Morality, the Unborn, and the Open Future”), Jeremy Butterfield (“Seeing the Present”), David Cockburn (“Tense and Emotion”), William Lane Craig (“The Tensed vs. Tenseless Theory of Time: A Watershed for the Conception of Divine Eternity”), Gregory Currie (“Tense and Egocentricity in Fiction”), Heather Dyke (“Real Times and Possible Worlds”), Paul Helm (“Time and Trinity”), Robin Le Poidevin (who is the editor, and contributes a general introduction as well as a paper titled “The Past, Present, and Future of the Debate about Tense”), E.J. Lowe (“Tense and Persistence”), Graham Nerlich (“Time as Spacetime”), L. Nathan Oaklander (“Freedom and the New Theory of Time”), and Quentin Smith (“Absolute Simultaneity and the Infinity of Time”).

In this critical study, I will address certain issues that have to do with the semantics and metaphysics of tense, together with some related questions involving alleged analogies and disanalogies between time and modality. These are themes that are touched on in many of the essays in the book, but in order to keep my discussion sufficiently focused, I will explicitly address just one of the papers contained in the volume: Dyke’s “Real Times and Possible Worlds.” Although I will (naturally) be disagreeing with certain of Dyke’s arguments, I trust that this will not obscure the fact that I consider her paper (like the other papers in the book) to be an extremely interesting and valuable contribution to the literature on time and tense.

2 Time and Modality

There is a certain theory about time—sometimes called the New Tenseless Theory of Time—that is currently popular among B Theorists.² The New Tenseless Theory of Time (or NTT, as I will refer to it) can be thought of as consisting of The B Theory together with the following three theses.

The Indexical Analysis of Tense: Expressions like ‘now’, ‘it has been the case that’, and ‘it will be the case that’ are indexical terms whose references vary depending on relevant features of the context of utterance.³

The Eliminability of Tense Operators from Truth Conditions: Sentences containing tense operators (like ‘it has been the case that’ and ‘it will be the case in 2 days that’) can be given truth conditions that do not themselves contain such operators.⁴

Non-presentism: Non-present objects are just as real as present objects.⁵

And there is a certain line of reasoning, appealed to by many NTTers, from The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions to the other components of NTT (namely, The B Theory and

Non-presentism). Dyke is an example of an NTTer who appeals to this line of reasoning. She writes,

... [NTT] is the theory that, although tense is ineliminable from thought and language, nevertheless it does not constitute part of temporal reality. So the theory does not aim to provide an analytic reduction of all tensed sentences to tenseless sentences. It recognizes that this is not possible. Instead, it claims to provide an ontological reduction of tense to tenseless temporal relations. This is achieved by giving the truth-conditions of tensed sentences in entirely tenseless terms. The token-reflexivity of these truth-conditions explains how different tokens of the same tensed sentence-type can have different truth-values. A token of ‘The sun is rising’ uttered before dawn is false, as is a token of the same type uttered at noon. It is only tokens of this type uttered simultaneously with the rising of the sun that are true. *The metaphysical implications of this truth-condition project are that, although tense is a fundamental aspect of language and thought, it does not exist in reality.* All that is needed to account for the objective truth or falsity of tensed sentences is tenseless temporal relations between events. *Thus, the distinction between past, present, and future constitutes no part of reality whatsoever, and all times are ontologically on a par.*⁶

So the line of reasoning that is popular among NTTers and suggested in the above passage by Dyke goes from The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions to The B Theory and Non-presentism.

Meanwhile, there is a thesis about the expression ‘actual’ that is analogous to The Indexical Analysis of Tense, and there is a corresponding thesis about the modal operators that is analogous to The Eliminability of Tense Operators from Truth Conditions; moreover, there is a parallel line of reasoning from these two theses to a pair of modal theses that correspond to The B Theory and Non-presentism. If we refer to such putative modal properties as *actuality* and *being possible* as “modal A properties,” and distinguish them from such modal relations as *at the same world as* and *true at some world accessible to*, which we can call “modal B relations,” then the relevant theses can be formulated as follows.⁷

The Indexical Analysis of Actuality: Expressions like ‘actual’ and ‘possible’ are indexical terms whose references vary depending on relevant features of the context of utterance.⁸

The Eliminability of Modal Operators from Truth Conditions: Sentences containing modal operators (like ‘possibly’ and ‘necessarily’) can be given truth conditions that do not themselves contain such operators.⁹

The Modal B Theory: There are no genuine, irreducible modal A properties; talk that appears to be about modal A properties is analyzable in terms of modal B relations.

Modal Realism: Merely possible objects are just as real as actual objects.

And the relevant modal line of reasoning that is parallel to the popular line of reasoning among NTTers goes something like this: Since expressions like 'actual' and 'possible' are indexical terms, and since we can state the truth conditions for modal sentences without using modal operators, it must be the case that there are no genuine properties like "actuality" or "being possible" in reality; moreover, it must also be true that "actual" objects (i.e., objects that are worldmates of a given person or judgment or perception) are no more real than "merely possible" objects (i.e., objects that are not worldmates of a given person or judgment or perception).

But here is a strange thing concerning NTT and the line of reasoning that goes from The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions to The B Theory and Non-presentism: although many proponents of NTT appeal to that line of reasoning, and also endorse both The Indexical Analysis of Actuality and The Eliminability of Modal Operators from Truth Conditions, very few (if any) of them also endorse both The Modal B Theory and Modal Realism.¹⁰ This seems like a strikingly odd failure in the parity of reasoning department among the relevant theorists. In fact, it appears that any proponent of NTT who endorses the inference from The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions to The B Theory and Non-presentism, and also accepts both The Indexical Analysis of Actuality and The Eliminability of Modal Operators from Truth Conditions, has only two reasonable options: either accept The Modal B Theory and become a Modal Realist, or else abandon the relevant argument for The B Theory and Non-presentism.

This is what I will call The Parallel Reasoning Problem, and it is the main topic of Dyke's paper, in which she proposes a solution to the problem. According to Dyke's solution, there is a crucial disanalogy between time and modality, in virtue of which the NTTer can consistently endorse the relevant temporal line of reasoning without also endorsing the corresponding modal line of reasoning. The relevant disanalogy, however, is not any disanalogy that others have claimed to exist between time and modality.¹¹ Instead, the crucial disanalogy consists in the fact that the relevant modal line of reasoning is a bad one while the relevant temporal line of reasoning is a good one. And the reason for this, according to Dyke, is that the combination of The Indexical Analysis of Actuality with The Eliminability of Modal Operators from Truth Conditions does not entail the other relevant modal theses.¹² Thus, concludes Dyke, a proponent of NTT who argues from The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions to The B Theory and Non-presentism, and who also accepts both The Indexical Analysis of Actuality and The Eliminability of Modal Operators from Truth Conditions, is not committed to the relevant modal theses (and, in particular, is not committed to Modal Realism).

I think that there is good news and bad news for the NTTer. I think it's true, as Dyke says, that the modal version of the relevant line of reasoning fails. So the good news is that the NTTer, even if she accepts both The Index-

ical Analysis of Actuality and The Eliminability of Modal Operators from Truth Conditions,¹³ is not committed to Modal Realism. But I think it's also true, contrary to what Dyke says, that the temporal version of the relevant line of reasoning fails as well. So the bad news is that a historically important line of reasoning that is popular among NTers doesn't work. Let me try to explain my reasons for thinking that this is a good news/bad news scenario for the NTer.

First the good news. As Dyke points out, there would be nothing inconsistent in holding The Indexical Analysis of Actuality and The Eliminability of Modal Operators from Truth Conditions, together with the rival of Modal Realism, namely,

Actualism: Only actual objects exist.¹⁴

A person who held this combination of views would say that although 'actual' functions as an indexical, and although it is possible to give truth conditions for sentences with modal operators that do not themselves contain modal operators, it's also true that only actual objects exist. It would even be possible (as Dyke notes on pp. 104–105) to add to this combination the following modal analogue of The A Theory.

The Modal A Theory: There are genuine, irreducible modal A properties; talk that appears to be about modal A properties is not analyzable in terms of modal B relations.

Because this combination of views is a consistent one, the modal version of the line of reasoning we are discussing fails. There is just no (valid) way to get from the Indexical Theory of Actuality and The Eliminability of Modal Operators from Truth Conditions to either The Modal B Theory or Modal Realism.¹⁵

Why does Dyke think that even though the relevant modal line of reasoning is a bad one, the corresponding temporal line of reasoning is a good one? Because she thinks that The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions cannot be reasonably combined with The A Theory. In order to establish this point, Dyke considers attempts by Quentin Smith and E.J. Lowe to combine The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions with The A Theory (which she refers to as "a tensed ontology").¹⁶ If either attempt were to succeed, that would show that the combination of The Indexical Analysis of Tense with The Eliminability of Tense Operators from Truth Conditions is consistent with The A Theory. But Dyke thinks that both attempts fail for the same reasons. Here is what she says about Smith's view.

Now, what makes Smith's theory tensed is his inclusion in it of tensed, non-token-reflexive properties, such as pastness, presentness, and futurity. However, there is

nothing in the token-reflexive analysis of tensed language [i.e., the combination of The Indexical Analysis of Tense with The Eliminability of Tense Operators from Truth Conditions] itself which entails the existence of such properties. Independent reasons need to be given to invoke their existence. In my view, Quentin Smith's position does not threaten to divorce the token-reflexive analysis [i.e., the combination of The Indexical Analysis of Tense with The Eliminability of Tense Operators from Truth Conditions] from a tenseless ontology [i.e., The B Theory]. Rather, Smith is introducing an additional category of temporal entity into his ontology, a move which leaves the onus firmly with him to provide justification for it. Furthermore, his account must overcome the problems inherent in adopting a tensed ontology. That is, Smith must defeat McTaggart's argument that real tense is inherently self-contradictory.¹⁷

Later, after also discussing Lowe's attempt to combine The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions with The A Theory, Dyke writes the following.

Lowe's position is similar to that of Smith. Each of them has yet to prove that the token-reflexive analysis [i.e., the combination of The Indexical Analysis of Tense with The Eliminability of Tense Operators from Truth Conditions] is consistent with a tensed ontology [i.e., The A Theory].¹⁸

It is evident from these passages that Dyke thinks that two distinct considerations count against the consistency of The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions with The A Theory: (1) the combination of The Indexical Analysis of Tense with The Eliminability of Tense Operators from Truth Conditions does not entail The A Theory, which means that anyone who holds the former would have to have an independent reason for also accepting the latter; and (2) McTaggart's argument against the reality of tense presents an insurmountable obstacle to the tenability of The A Theory.¹⁹

Should either of these considerations really count against believing that the combination of The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions is consistent with The A Theory? I don't think so. As for the first consideration, Dyke is correct in saying that the relevant combination does not *entail* The A Theory. But since the issue is whether this combination is *consistent with* The A Theory, that point is simply irrelevant. What matters is whether the combination in question entails that The A Theory is false. And it surely does not.

It is worth noting here that, as a matter of fact, The A Theory is standardly combined with both The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions. For the A Theorist certainly wants to say that the reference of an expression like 'now' or 'it has been the case that' varies over time (who would deny that?), which commits him to The Indexical Analysis of Tense. What's more, the A Theorist is forced, in virtue of his commitment to genuine A properties, to adopt a system of tense logic,²⁰ and

the standard semantics for tense logic involve truth conditions for the tense operators like these:²¹

‘It has been the case that ϕ ’ is true at a time, t , iff ‘ ϕ ’ is true at some time earlier than t .

‘It will be the case in 2 days that ϕ ’ is true at a time, t , iff ‘ ϕ ’ is true at the time 2 days later than t .

But clearly such truth conditions do not themselves contain any tense operators, which means that the A Theorist is committed to The Eliminability of Tense Operators from Truth Conditions.

Since the A Theorist is just as committed to both The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions as the B Theorist, it turns out that The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions are utterly uncontroversial theses. Uncontroversial both in the sense that no right-thinking A or B Theorist *ought* to deny either one, and also in the sense that (so far as I know) no A or B Theorist *in fact* denies either one.²²

In any case, the important point for our purposes is that the combination of The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions is perfectly consistent with The A Theory. Moreover, Dyke does not attempt to give any argument showing that The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions together entail that The A Theory is false. (Incidentally, I think that those of us who happen to hold The Indexical Analysis of Tense, The Eliminability of Tense Operators from Truth Conditions, and The A Theory do indeed have a perfectly respectable, independent reason for endorsing the latter component of this triad: our pre-philosophical intuitions strongly support the claim that A properties are genuine properties of times and events, and that each time successively possesses different A properties.)

So much for Dyke’s first consideration against the consistency of The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions with The A Theory. As for the second consideration, which is supposed to show that The A Theory itself is untenable, it seems to me (and has seemed to many others), that McTaggart’s argument is more of a nonstarter than a serious threat to The A Theory.²³ For my part, I think that much more serious threats to The A Theory are posed by two other arguments that have been brought against it in the last fifty years: (1) the argument from relativity, and (2) an argument based on the alleged incoherence of talk about the rate of the passage of time.²⁴ In any case, I admit that if any one of those arguments against The A Theory is sound, then The A Theory is false (and so, consequently, is the combination of The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions with The A Theory). But notice that none of the three arguments in question (namely, McTaggart’s

argument, the argument from relativity, and the argument about the rate of passage) appeals to either The Indexical Analysis of Tense or The Eliminability of Tense Operators from Truth Conditions. So even if one of those arguments is a sound one, it still wouldn't show that the combination of The Indexical Analysis of Tense with The Eliminability of Tense Operators from Truth Conditions by itself entails the falsity of The A Theory.²⁵

I conclude that the line of reasoning from The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions to The B Theory and Non-presentism, despite its popularity among NTTers, is just as much of a failure as the corresponding line of reasoning from The Indexical Analysis of Actuality and The Eliminability of Modal Operators from Truth Conditions to The Modal B Theory and Modal Realism. Thus the NTTer is saved from The Parallel Reasoning Problem, but robbed of what has traditionally been her favorite argument for the metaphysical component of her view (namely, the conjunction of The B Theory and Non-presentism).

Unfortunately, the good news—that the NTTer is saved from The Parallel Reasoning Problem—is offset by the fact that there is a related problem for the NTTer lurking nearby. She holds a certain pair of theses about the metaphysics of time (namely, The B Theory and Non-presentism). Meanwhile, for each of these theses, there is a corresponding, and perfectly analogous, thesis concerning the metaphysics of modality (namely, The Modal B Theory and Modal Realism, respectively). But—and here is the rub—the typical proponent of The B Theory and Non-presentism does not endorse the pair of modal theses that corresponds to her combination of temporal views. In particular, she views Modal Realism, the analogue of her Non-presentism, as a bizarre and utterly incredible doctrine. Given the striking analogies between the issues that arise in the philosophy of time, on the one hand, and the philosophy of modality, on the other hand, this surely seems odd, if not downright inexplicable. When there are such strong analogies between two areas of philosophy, one naturally expects a philosopher who holds a certain pair of views in one of those areas to hold the corresponding pair of views in the other area. And when such a philosopher fails to do so, one wonders why.

I will call this failure on the part of the typical advocate of The B Theory and Non-presentism to endorse the combination of modal views that is so strikingly analogous to her combination of temporal views “The Analogue Problem.” Although she does not explicitly address it in her paper, I think that on some level The Analogue Problem bothers Dyke nearly as much as The Parallel Reasoning Problem. Moreover, I know from anecdotal evidence that The Analogue Problem indeed bothers many philosophers who are otherwise content to endorse The B Theory and Non-presentism. Is there a solution?

I think so. The first thing to notice is that The Analogue Problem is not peculiar to the combination of The B Theory and Non-presentism. Consider, for example, the A Theorist who also endorses Non-presentism. There are a great number of such philosophers, but I don't think any one of them holds

the pair of modal views that corresponds to this temporal combination. For the relevant pair of modal theses consists of The Modal A Theory and Modal Realism—and the latter is denied by nearly everyone except David Lewis (who is not himself an A Theorist). Thus the proponent of the combination of The A Theory and Non-presentism is, like the advocate of The B Theory and Non-presentism, guilty of failing to hold the pair of modal theses that corresponds to his temporal views.

In fact, it turns out that only one kind of A Theorist, namely, the A Theorist/Presentist, typically holds the pair of modal theses that corresponds to his combination of temporal views. For the typical A Theorist/Presentist also accepts both The Modal A Theory and Actualism, thereby staking out a modal position that is exactly analogous to his views on time. Does this mean that A Theorists who are also Presentists have an important advantage over A Theorist/Non-presentists and B Theorists alike? I wish—for I am both an A Theorist and a Presentist, and I hold the modal analogues of these views, namely, The Modal A Theory and Actualism. But, alas, I cannot in all fairness claim that this is a significant advantage for my position. The reason has to do with the fact that there are not only *modal* analogues to the theses we are considering in the philosophy of time, but also *spatial* and *personal* analogues. And, as luck would have it, no A Theorist/Presentist that I have ever heard of endorses *either* the combination of spatial theses *or* the combination of personal theses that corresponds to the combination of The A Theory with Presentism. Allow me to explain.

3 Time, Modality, Space, and Personality

Let's agree to refer to such putative spatial properties as *being here* and *being two feet north of here* as "spatial A properties," and to distinguish them from such uncontroversial spatial relations as *in the same place as* and *two feet north of*, which we can call "spatial B relations." Similarly, let's agree to call such putative personal properties as *me-ness*, *you-ness*, and *being two people over from me* (on some ordering of people; for our purposes it doesn't really matter how that ordering is generated) as "personal A properties," and to distinguish them from such uncontroversial personal relations as *the same person as*, *a different person from*, and *two people over from*. Then the spatial and personal analogues of The A Theory and The Modal A Theory can be formulated as follows.

The Spatial A Theory: There are genuine, irreducible spatial A properties; talk that appears to be about spatial A properties is not analyzable in terms of spatial B relations.

The Personal A Theory: There are genuine, irreducible personal A properties; talk that appears to be about personal A properties is not analyzable in terms of personal B relations.

While the relevant analogues of The B Theory can be formulated like this.

The Spatial B Theory: There are no genuine, irreducible spatial A properties; talk that appears to be about spatial A properties is analyzable in terms of spatial B relations.

The Personal B Theory: There are no genuine, irreducible personal A properties; talk that appears to be about personal A properties is analyzable in terms of personal B relations.

Meanwhile, the spatial and personal analogues of Presentism and Non-presentism, respectively, can be spelled out as follows.²⁶

Hereism: Only objects that are right here exist.

Solipsism: I am the only person that exists.

Non-hereism: Objects that are not right here are just as real as objects that are right here.

Non-solipsism: Other people are just as real as I am.

Now, consider the following table. The left-most column shows the three popular combinations of views in the metaphysics of time,²⁷ and the next three columns show the modal, spatial, and personal analogues of these combinations. A check mark next to a thesis in a cell in Columns 2, 3, or 4 indicates that the proponent of the corresponding temporal view also typically endorses that thesis, while an X indicates that he or she does not. A shaded cell in Columns 2, 3, or 4 indicates that the typical proponent of the relevant combination of temporal views (from Column 1) also endorses the combination of views in that cell, while an unshaded cell indicates that he or she does not.²⁸

Temporal view	Modal analogue	Spatial analogue	Personal analogue
B Theory Non-presentism	Modal B Theory × Modal Realism ×	Spatial B Theory ✓ Non-hereism ✓	Personal B Theory ✓ Non-solipsism ✓
A Theory Non-presentism	Modal A Theory ✓ Modal Realism ×	Spatial A Theory × Non-hereism ✓	Personal A Theory × Non-solipsism ✓
A Theory Presentism	Modal A Theory ✓ Actualism ✓	Spatial A Theory × Hereism ×	Personal A Theory × Solipsism ×

As the table indicates, The Analogue Problem is a problem shared by nearly everyone who holds any of the combinations of temporal views we are considering. For there is not a single combination of temporal views whose proponents typically endorse all three of the analogous combinations. Even the A

Theorist/Presentist, who seemed to be in such good shape when we were considering only the modal analogues of our temporal views, turns out to be in worse shape (as far as holding combinations of views that are perfectly analogous to his temporal position) than The B Theory/Non-presentist. For although the latter theorist fails to hold the modal position that is analogous to her pair of temporal views, at least she holds the spatial and personal positions that are, while the A Theorist/Presentist holds neither the spatial combination nor the personal combination that is analogous to his pair of temporal views.

What is the A Theorist/Presentist to do? What, for that matter, is the A Theorist/Non-presentist or the B Theorist/Non-presentist to do? Each one is guilty of the same thing: failing to hold all three of the positions that are analogous to the combination of temporal views he or she endorses. And I think that the solution is the same in each case. Consider the A Theorist/Presentist. He ought to explain the fact that his modal views are analogous to his temporal views, while his spatial and personal views are not, by pointing out that he believes time to be fundamentally similar to modality, but fundamentally different from space and personality (the “dimension” of personhood).²⁹ In fact, ‘explanation’ is too strong a word here. The A Theorist/Presentist should say that his position is basically *defined* by the insight that there are important metaphysical similarities between time and modality, and important metaphysical differences between time and the other dimensions. Seen in this light, the failure on his part to hold spatial and personal views that are analogous to his temporal views does not have the appearance of an awkward inconsistency. Instead, it is simply a part of his basic metaphysical outlook.

Similar remarks apply in the case of the A Theorist/Non-presentist. Assuming that he accepts The Modal A Theory (which seems to be the default position in the choice between the Modal A and B Theories), he will say that time is like modality in one respect (the reality of the relevant A properties), but crucially different from modality in another respect (although there are some non-present objects, there are no merely possible objects). And he will also point to a similarity between time and both space and personality (non-present objects, objects in other places, and other people are all equally real), as well as a crucial difference between time and both space and personality (in the case of time, the relevant A properties are real and unanalyzable, but not in the case of space or personality). That is, he will insist that time is a sort of “mixed” dimension, similar to each of the other three we are considering in one way, but not completely like any of them.

Finally, return to the case of the B Theorist/Non-presentist. Her position³⁰ is that time is very much like the dimensions of space and personality (both in terms of the unreality of genuine A properties of the relevant kinds, and in terms of the reality of non-present objects, objects at other locations, and other people), but utterly different from modality (because there are no genuine A properties but there are genuine modal A properties, and also because there are non-present objects but no merely possible objects).

In short, the different combinations of views on time that we have been considering, and that appear in the above table, represent different ways of thinking about what time has in common with, and how it differs from, modality, space, and personality. Once this fact is appreciated, the phenomenon that gave rise to The Analogue Problem (namely, the failure on the part of the B Theorist/Non-presentist to hold the pair of modal theses that is analogous to her combination of temporal theses) no longer seems odd or inexplicable.³¹

Notes

¹The piece that, more than any other, is responsible for launching the discussion, and setting the terms of the debate, is J.M.E. McTaggart's "The Unreality of Time."

²See, for example, D.H. Mellor, *Real Time*; Robin Le Poidevin, *Change, Cause, and Contradiction*; and L. Nathan Oaklander, "A Defense of the New Tenseless Theory of Time."

³Dyke's version of The Indexical Analysis of Tense, which is based on the account of tensed sentences defended by D.H. Mellor in *Real Time*, involves a token-reflexive account of the truth conditions for tensed sentences. The difference between this version and alternative versions (like the one offered by J.J.C. Smart in his "Time and Becoming") will not matter for our purposes here.

⁴Thus, for example, 'it has been the case that ϕ ' is true at a time, t , iff ' ϕ ' is true at some time earlier than t , and 'it will be the case in 2 days that ϕ ' is true at t iff ' ϕ ' is true at the time 2 days later than t .

⁵The idea being that Socrates, for example, is a non-present object who is no less real than you or me. The opposing view is Presentism, according to which only present objects exist.

⁶Dyke, "Real Times and Possible Worlds," p. 94. Emphasis added.

⁷This combination of views (although not the relevant line of reasoning) is defended by David Lewis. See his "Anselm and Actuality" and *On the Plurality of Worlds*.

⁸The idea being that any utterance of 'actual' refers to the world in which it occurs, while any utterance of 'possible' refers to the set of worlds accessible to the world in which it occurs, with that set being determined by whichever accessibility relation is fixed by the relevant features of the context of the utterance.

⁹Thus, for example, 'possibly ϕ ' is true at a world, w , iff ' ϕ ' is true at some world accessible from w , and 'necessarily ϕ ' is true at w iff ' ϕ ' is true at every world accessible from w .

¹⁰This is true largely because of Modal Realism's distinct lack of popularity. Many of the relevant philosophers don't appear to have a settled view on The Modal B Theory, but nearly all of them would vigorously deny Modal Realism.

¹¹Dyke considers but rejects alleged disanalogies that have been invoked to solve The Parallel Reasoning Problem by Lowe (in his "On a Supposed Temporal/Modal Parallel"), Graeme Forbes (in his "Actuality and Context Dependence I"), Martin Davies (in his "Actuality and Context Dependence II"), and Peter van Inwagen (in his "Indexicality and Actuality").

¹²Dyke, "Real Times and Possible Worlds," pp. 104ff.

¹³Since most NTTers do in fact endorse The Indexical Analysis of Actuality and The Eliminability of Modal Operators from Truth Conditions, I will not continue to add this qualification in what follows.

¹⁴Dyke, "Real Times and Possible Worlds," p. 104.

¹⁵Lewis of course has other arguments for his combination of modal views (see especially his *On the Plurality of Worlds*), but the point here is that none of his arguments has as its only premises the Indexical Theory of Actuality and The Eliminability of Modal Operators from Truth Conditions.

¹⁶See Smith, *Language and Time*, p. 98; and Lowe, "Comment on Le Poidevin," p. 173.

¹⁷Dyke, "Real Times and Possible Worlds," p. 110.

¹⁸Dyke, "Real Times and Possible Worlds," p. 111.

¹⁹At least, that is what the relevant passages suggest to me. But it is worth mentioning that in comments on an earlier version of this critical study, Dyke suggests that she does not in fact think that the combination of The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions is inconsistent with The A Theory. (If that is indeed her view, however, then the popular line of reasoning described above from The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions to The B Theory and Non-presentism is not available to her.)

²⁰That is, a system of logic based on the assumption that the bearers of the truth-values have truth-values at times, and can, in theory, have different truth-values at different times.

²¹See, for example, Antony Galton, "Temporal Logic."

²²It turns out that The Indexical Analysis of Actuality and The Eliminability of Modal Operators from Truth Conditions are equally uncontroversial. For no one (and, in particular, neither the Actualist nor the Modal Realist) would deny that expressions like 'actual' and 'possible' are indexical terms whose references vary depending on relevant features of the context of utterance. Nor would anyone deny that sentences containing modal operators can be given truth conditions (like the ones spelled out in footnote 9 above) that do not themselves contain such operators.

²³Here is what I take to be McTaggart's main argument against The A Theory: (1) If The A Theory is true, then each moment of time is past, present, and future. (2) Pastness, presentness, and futurity are incompatible characteristics. (3) If (2), then it's not the case that each moment of time is past, present, and future. Therefore (4) The A Theory is not true.

As I see it, the main flaw in the argument is that it is based on a failure to appreciate two crucial facts about The A Theory: (i) that the A Theorist is committed to "taking tense seriously" (i.e., he or she is committed to irreducible tense operators (a commitment that, incidentally, is consistent with The Eliminability of Tense Operators from Truth Conditions)), and (ii) that doing so gives the A Theorist an automatic way of rejecting the argument. For anyone who endorses The A Theory, and consequently takes tense seriously, will insist that not every moment is past, present, and future. In fact, such a person will say, any moment that is past is neither present nor future, any moment that is present is neither past nor future, and any moment that is future is neither past nor present. Thus, the A Theorist will say, premise (1) of McTaggart's argument is false.

Of course, the A Theorist will admit that, as long as we take tense seriously, we can say of the present moment that it *is* present, *was* future, and *will be* past. But he or she will insist that there is no contradiction in saying this (any more than there is a contradiction in saying of a particular leaf that it *is* green and *will be* red).

For more on criticisms of McTaggart's argument, see Broad, *An Examination of McTaggart's Philosophy*, Vol. II, Part I; and Prior, *Past, Present, and Future*, Ch. I.

²⁴For discussions of the argument from relativity, see Hilary Putnam, "Time and Physical Geometry;" and Howard Stein, "On Einstein-Minkowski Space-Time." For discussions of the argument based on the alleged incoherence of talk about the rate of the passage of time, see J.J.C. Smart, "The River of Time;" Arthur Prior, "Changes in Events and Changes in Things;" and Ned Markosian, "How Fast Does Time Pass?"

²⁵It is true, however, that if either McTaggart's argument or the argument about the rate of the passage of time (each of which is meant to be an *a priori* argument against The A Theory) is sound, then The A Theory is necessarily false, which would also make the combination of The A Theory with The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions necessarily false.

²⁶As in the case of modality, there are also spatial and personal analogues of The Indexical Analysis of Tense and The Eliminability of Tense Operators from Truth Conditions. But the relevant linguistic theses are just as uncontroversial as their temporal and modal siblings, so we needn't discuss them here.

²⁷No one seems to hold the combination of The B Theory and Presentism, presumably because no one has figured out how to analyze away talk about A properties without appealing to at least some non-present objects.

²⁸It is worth noting that there is an atypical proponent of The B Theory and Non-presentism (namely, David Lewis) who does in fact hold The Modal B Theory and Modal Realism, thereby making him the only philosopher I am aware of whose modal, spatial, and personal views are all perfectly analogous to his temporal views.

²⁹For convenience, I am writing as if there is only one dimension of space, although in fact there are three (which all parties to our disputes believe to be perfectly similar).

³⁰Assuming that she too accepts The Modal A Theory.

³¹I'm very grateful to Heather Dyke, Hud Hudson, and Ted Sider for helpful comments on an earlier version of this critical study.

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