

On moving past the ABCs

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Abstract: Craig Callender's *What Makes Time Special?* (OUP 2017) advocates and practices an innovative, thoroughly interdisciplinary approach to philosophical questions about time and temporal features of our lives. Grappling with it is of intrinsic philosophical interest; it is also part of responding to the methodological invitation the book issues to philosophers of time. This paper is motivated by the wish to clarify WMTS's philosophical underpinnings. The main claim of the paper is that WMTS relies on an ambiguity between rejecting the A-theory versus B-theory debate, and endorsing a position within that debate. This ambiguity leads to a somewhat unstable position on how a key feature of manifest time, namely our sense of time as flowing, arises from physical time. The paper ends with a suggestion for how to resolve the ambiguity, in a way that is in line with the gist of Callender's overall vision for the field.

Introduction

As Yuri Balashov says in the opening lines of his Notre Dame review of Craig Callender's *What makes time special?* (OUP 2017, hereafter 'WMTS'), the philosophy of time is booming (Balashov 2018). Moreover, Callender's book is a landmark contribution. It outlines an exciting new vision for how to gain new philosophical insights on topics surrounding time and temporal features of our lives, and it puts that vision into practice.

The aim of this paper is to grapple with some of the philosophical underpinnings of WMTS, especially its second half. The paper is motivated by enthusiasm for the gist of Callender's vision. The main claim of the paper is that WMTS contains a lingering ambiguity

between rejecting the A versus B debate, and endorsing a position within it (namely, the B-theory).

Section 1 outlines Callender's project and his methodological invitation to philosophers of time. Section 2 offers some preliminary textual evidence for the paper's main claim. Section 3 further argues for the main claim. Section 4 considers ways in which the ambiguity does philosophical harm, especially when it comes to WMTS's explanation of why we think time flows. I end with a brief suggestion for how to resolve the ambiguity.

1 Callender's vision

Callender is addressing the gap between physical time and manifest time – the gap between time as physics portrays it, and time as it presents itself to us pre-theoretically. Actually, 'pre-theoretically' is not quite right; what's at issue is a regimented common sense picture of the world, itself a theory or proto-theory, in the sense of Wilfrid Sellar's phrase 'manifest image' (cf (Savitt 2012)). Strikingly, manifest time includes such features as an objectively special present, a flow of time in which the present renews itself, and a genuinely open future ripe with possibilities. Physical time, by contrast, includes none of these things.

WMTS aims to (begin to) fill this explanatory gap, starting from physics, and incorporating results from a variety of other disciplines with helpful results to contribute, including biology, cognitive science, and developmental psychology.

One discipline that doesn't make it onto the list is analytic metaphysics, and the omission is deliberate. Chapter 13 ('Moving past the ABCs of time') is a passionate plea for philosophers of time to re-direct their attention away from the metaphysics of time, in which McTaggart's A-, B- and C-series distinctions still play a key role. Metaphysical distinctions, Callender argues, will not help us understand time any better. Some of them may not even make sense. Whether or not they do, the theories they result in have no explanatory power. Callender's stance here is in line with his broader methodological outlook, on which he approvingly quotes computer scientist Scott Aaronson (2016):

'[W]henver it's been possible to make definite progress on ancient philosophical problems, such progress has almost always involved a [kind of] 'bait-and-switch'. In other words: one replaces an unanswerable philosophical riddle Q by a 'merely' scientific or mathematical question Q', which captures part of what people have

wanted to know when they've asked Q. Then, with luck, one solves Q' [...] [T]his process of "breaking off" answerable parts of unanswerable riddles, then trying to answer those parts, is the closest thing to philosophical progress that there is.' (356)

In the case of time, the idea is that thinking in terms of A-, B-, and C-theories has not led in fruitful directions. Instead, we should focus on smaller, non-metaphysical, and more scientifically tractable questions concerning the relation between physical and manifest time.

2 To B or not to B

The B-theory of time, aka the block universe view, is the combination of eternalism - all times exist - with the claim that at the fundamental level, there are only tenseless facts about simultaneity and succession. Time does not pass or 'flow', in the sense that there is no metaphysical privilege, such as sole existence, being handed from time to time. (I'm deliberately focusing on the mainstream understanding of the B-theory here; see e.g. (Pooley 2013) or (Miller 2013).)

In his review of Brad Skow's *Objective Becoming* (Skow 2015), Tim Maudlin points out that physicists don't talk about A- and B-theories or tensed or tenseless facts, but that they do sometimes mention the block universe (Maudlin 2018). Arguably, this behavior on the part of many physicists is indicative of more than just ignorance of the fact that 'block universe view' and 'B-theory' denote the same view. Most likely it indicates that they, like Callender, are not interested in temporal metaphysics, and that they, like Callender, tend to equate temporal metaphysics with the A-theory. The block universe view (B-theory), by contrast, is seen as a metaphysically innocent default position.

Why think this stance is in the background of WMTS? The first line of evidence is that there are many passages that equate temporal metaphysics with the A-theory. For example, in chapter 1, Callender explains why he works his way from physical to manifest time rather than the other way around, as some phenomenologists might prefer to do. One reason is this:

'Analytic metaphysicians have devised all manner of modifications or replacements for physical time in the past hundred years [...]. These theorists are sometimes called *tensers*, as they propose models of time that would provide objective counterparts for

our tensed claims, i.e., they propose physical models that truly distinguish an objective and observer-independent past, present and future.’ (42)

Chapter 13 paints a similar picture. Callender there addresses the objection that in order for his explanation to do the intended work, it would need to be purged of tensed concepts.

Here too, temporal metaphysics is equated with tensed metaphysics:

‘[F]or all that I have argued in the book, it’s possible that some new temporal metaphysics is necessary to underwrite the causal and knowledge arrows and perhaps also the various scientific theories used. Fine. Nothing I have done refutes any particular metaphysical model of time. Instead what I have done is give them less to do. Now, rather than going from (say) tensed attitudes about headaches to presentism, one must go via psychology to presentism [...]’ (346)

Suppose there really is an implicit commitment to the B-theory in the background of WMTS (more on this below). One might think, so what? Why not equate temporal metaphysics with the A-theory? After all, it’s only the A-theory that has affinities with manifest time, thereby tempting us into positing metaphysical pseudo-explanantia. That’s why the objection of chapter 13 arises: someone might feel the explanation needs purging of tensed concepts. By contrast, no one thinks it needs purging of tenseless ones. Is this not at best a useful simplification, and at worst an easily remedied slip of the tongue?

3 A bait-and-switch?

Prima facie, one can’t both reject the A versus B debate and endorse a position within it. But of course, all depends on the sense of ‘rejecting’ in play.

As a warm-up, compare this situation to the debate over whether the God of Western theism exists, with theists answering ‘Yes’ and atheists ‘No’. One thing that should be clear is that one can’t combine, say, expressivism about religious language, with atheism. Expressivism is roughly the view that sentences like ‘God exists’ have no propositional content; they don’t express beliefs (but rather e.g. plans or emotions).

The analogue of *this* combination of views (expressivism + atheism) is not there in WMTS. After all, Callender leaves it open whether or not, say, debates in temporal ontology are ‘genuine’ or ‘merely verbal’. For all he says, the semantics of statements in temporal ontology, and in temporal metaphysics more generally, is perfectly in order. For example,

‘only the present exists’ says something entirely straightforward, namely that only the present exists. Similarly, eternalism says something equally straightforward, namely that all times and/or all events and/or all spatiotemporal regions exist.

We get somewhat closer to the stance of WMTS with the following analogue. Someone could be an atheist, but simply not care about the theism-atheism debate. In fact, these arguably go particularly well together: they don’t care because they’re such a committed atheist. Nothing more needs saying about theism. Hence the debate is uninteresting and should, in that sense, be ‘rejected’. This kind of atheist would not intentionally contribute to the theism-atheism debate, because she takes the debate to be settled.

WMTS, by contrast, does intentionally contribute to the A versus B debate. Callender’s explanation of the origins of manifest time is intended to shift the dialectic within that debate, by making it more difficult for A-theorists to gesture towards manifest time for support (258; 301; 346).

However, the contribution is made, as it were, ‘from the outside’. Callender emphasizes that while there are in each case substantial affinities, A-time is not manifest time, and B-time is not physical time (344). We shouldn’t talk in terms of B-time, because that would unnecessarily restrict our explanatory resources. ‘Relativistic time (and spacetime) is a lot richer than the net of all earlier than and later than relations.’ (345) And we shouldn’t talk in terms of A-time, because that would give us far too narrow a view of the explanandum. Manifest time includes more than merely the A-theoretic objectification of past, present and future. It also includes the idea that the future is open, ‘(arguably) that time is absolute, that time is indivisible, and much more’ (344).

So the idea is that WMTS intentionally contributes to the A versus B debate, but without taking up a stance in it. Recall the broader methodology: break off smaller, scientific queries from big unanswerable metaphysical ones.

All well and good, except that WMTS does take up a stance in the A versus B debate, and it does address the big questions. This becomes clear once one asks what the smaller, scientific queries addressed actually are. Interestingly, Steve Savitt in his review supposes one such query to be ‘Why do we believe that time flows?’ (Savitt 2018). That can’t be what Callender means. ‘Why does only the present seem real?’ is classified as an unanswerable big question (356). But if this is a mistake, it’s an easy mistake to make, because the three features of manifest time that Callender concentrates on throughout are (a) our sense of the

present as special, (b) our sense of time as flowing, and (c) our sense of the future as open. No matter whether or not manifest time includes more, it at least includes these, and these are treated as core explananda. And (a), (b) and (c) are paradigmatically A-theoretic ideas. (Not all versions of the A-theory posit metaphysical differences between the past and the future, but some do, and the B-theory doesn't.)

Callender himself only claims to be performing Aaronson's bait-and-switch 'to some extent' (356). The point is that this extent is negligible. Take (a), for example. We start by asking about (a), and we end up asking the smaller query of how we perceive synchrony. But what we ultimately infer from that (independently interesting) discussion is a lesson about (a): we learn that 'the metaphysician's [the A-theorist's] present' is 'fragmented by cognitive science' (238). Similarly, consideration of questions like when we learn to temporally decenter or when autobiographical memory arises, stands in the service of addressing what leads us to them, namely our puzzlement over (b) and (c). The second half of WMTS culminates in a theory of how creatures like us might come to model time as flowing, and the future as open.

This means that what's being explained is how A-theoretic ideas get a hold. Whatever else manifest time includes (such as whether time is indivisible or that it's absolute or whatever else) is not the focus of attention. Moreover, the need for an explanation of (a), (b) and (c) arises precisely because of the features physical time shares with B-time, namely that both ignore the now, temporal flow, and the openness of the future.

Thus, WMTS's contribution to the A versus B debate is made less 'from the outside' than the rhetoric suggests. How B-theorists can explain the origins of A-theoretic ideas is a fairly traditional question within that debate. The innovation lies in the thoroughly interdisciplinary tools Callender uses to answer it.

Recall the advertised broader outlook: thinking in terms of A-, B-, and C-theories has not led in fruitful directions, so instead we should focus on smaller, non-metaphysical, and scientifically tractable questions. That turns out to be a bit misleading. We're still addressing those same big questions. It's just that we're doing it by also digging deeply into smaller questions encountered along the way. What's new is the recognition that these are encountered along the way.

This brings us back to the 'so what' objection. So what if WMTS 'rejects' a field that houses the very question it is addressing. Philosophically speaking, where's the harm? Given

the identification of temporal metaphysics with the A-theory, Callender's impatience with either is understandable. The point (which I find persuasive though I won't discuss it here) is that A-theoretic resources, such as tensed facts, make for poor explanations, and they don't gain by comparison with the explanation developed in WMTS. Why think there is any philosophical tension? Why does the ambiguity matter?

4 The self and the *whoosh*

As mentioned, WMTS culminates in a theory about the origins of our sense of the flow of time, and of the openness of the future ((b) and (c)). Let's focus on (b).

Callender builds on Jim Hartle's toy model of the IGUS (information gathering and utilizing system) (Hartle 2005), 'a kind of glorified camera' (267). The idea is that though vastly oversimplified, the IGUS model already goes some way towards explaining how our sense of flow might arise. The IGUS updates its perceptions of the world at regular time intervals, builds models of the world based on memories, and makes decisions based on new perceptions and those models. Drawing on previous chapters, Callender explains why the IGUS, at each point on its worldline, operates with the notion of a global present and on that basis divides the world into 'past', 'present', and 'future', why it feels 'stuck' in time, and how it perceives changes and temporal durations. Moreover, he points out that the IGUS reflects physical temporal asymmetries. Its perceptions and memories are only ever of events within the past, not the future lightcone, and information only ever gets replaced by later information.

What happens next is telling. Callender says that while all this isn't wrong per se, we should do better if we can. The rest of chapter 11 is presented as an improvement of the story up to that point, offering additional add-ons to the IGUS. But what prompts these 'add-ons' is the following thought:

'[I]t will be complained that we don't have movement yet, the whoosh and the whiz. Nothing seems to "crawl up" IGUS's worldline, thereby making time flow. [...] The memory asymmetry doesn't provide us with our desired feature of *something moving through time*.' (284)

This, however, is the key feature of (b) (our sense of time as flowing). So what's still missing is, everything. Arguably, reaching this kind of point is characteristic of B-theoretic explanations of our sense of time as flowing.

The missing ingredient is the self - a self that is enduring (wholly present at each time it exists) and that is a character in a story we tell. Callender insists that for his purposes, neither of these ideas needs to be, or even should be, understood as having any metaphysical dimension. As for endurance, 'I'm not a big fan of turning this conceptual distinction between endurantism and perdurantism into a metaphysical one, for I regard endurantism and perdurantism as two different ways of carving up the same exact world. No matter - we simply need the conceptual distinction. Certainly in the manifest image of the world we don't believe that our present self is merely a temporal part of a larger four-dimensional self' (285). As for narrativity, 'I don't need the hypothesis that narration *constitutes* selves. What I am committed to is that the narrative theory more or less gets the epistemology right - that is, that the enduring self we posit is the subject of our narration. What we identify as our self is the subject of our story-telling' (286).

While this is not the whole of the explanation, it's the heart of it. What does the heavy explanatory lifting, when it comes to (b), is our narration, which features ourselves as enduring.

'[T]he illusion of the enduring self is responsible for the illusion of the flow of time. What crawls up the worldline is not a substantial metaphysical entity, e.g., Weyl's moving spotlight, but rather the character in a kind of story. A narrative is being built up the worldline. [...] What is "crawling" up your worldline is a story that unfolds "up" the worldline, the story of me (and for you, you). With this understanding, we obtain a reason for our deep conviction that something is moving through time.' (289)

The first, somewhat small point to note about this is that persistence is not endurance. Perdurantism is also a view of persistence, namely the view that we persist (exist over time) by having temporal parts. On perdurantism too, you're one and the same entity throughout your life. Hence, the illusion of an enduring self is not identical with an illusion of a persisting self. If what figures in our narration is the idea that we endure, then that is different from and more specific than the idea that we are selves that persist over time.

The larger point is that rejecting the metaphysical debate over how we persist (whether we endure or not) is not the same as rejecting the view that we persist (by

enduring). This is the ambiguity at work again, only transposed to the persistence debate. And here we see how it does harm. Callender says he doesn't need the metaphysical distinction between endurantism and perdurantism. His reason seems to be that what he is interested in is manifest time, so what matters is just what we think, just the conceptual distinction, just the epistemology. But this is a non sequitur, and there are two related problems with this stance.

First, there has to be some content to the narration. This content is not only well delineated but metaphysical, because it describes one way for us to be, one way for selves to persist. Suppose we instead try to think of the distinction between endurantism and perdurantism as merely 'conceptual'. And suppose this means that endurantism (and/or the view that there is a persisting self) is somehow not a substantial claim but merely one language among others. Endurantists don't make any substantial claim about the world; they merely enable us to call the same old things by different names. Then what does the story *say*?

Second, in order for the enduring self to be an illusion, it has to *not exist* (Balashov makes a similar point (Balashov 2018).) The same goes for the flow of time, and since one illusion is supposed to be responsible for the other, we can focus on either. According to chapter 14, little hangs on whether we call manifest time illusory or not. Is manifest time an illusion? If by 'illusion' we mean perceptual misapprehension, as is customary, then Callender's answer is, not really. Few of the features of manifest time under discussion turned out to be perceptual, and those that did turned out not to be misapprehensions. If we mean something broader, then his answer is, maybe, but it doesn't matter.

The reason it does matter, by WMTS's own lights, is the unified nature of manifest time, and thereby of WMTS's project. Manifest time is a thoroughly misleading ('more or less rubbish' (12)) model of time that we carry around in our heads from an early age, that pervades our relationship to time, and whose most defining features correspond to nothing in physical time. Manifest time gets physical time completely wrong. *We* get it completely wrong. There are not just many independently interesting, separate features of our relation to time and our features as temporal beings. There is a common thread. Manifest time is a single model, and it is near universal. Moreover, what that model models, namely time, is actually very different from how it is modeled by us. This *is* metaphysics: there is an appearance, and it is out of sync with reality.

The trouble is not just that this distinction between appearance and reality is implicit throughout. It's that WMTS's rejection of the distinction as outdated and inessential itself plays a crucial role in the explanation of (b). This rejection is what's intended to license moving freely back and forth between 'self' and 'self-conception', and to justify the generous use of quotation marks: the self 'crawls up' the worldline. A self is 'created'. Mind you, nothing literally crawls (284). Does something crawl metaphorically, then? This move would raise a lot more questions about how we are to understand this and other metaphors.¹ One gets the impression that the reader is supposed to cease puzzling over such things, once they recognize the emptiness of the appearance-reality distinction, and thereby of all these metaphysical disputes.

Ironically, if one does that, it's unlikely that anything more than the memory theory will be needed. Stripped of the quotation marks, what we have is a series of successive temporal perspectives along a worldline, each one of which involves a subject telling a story whose versions build on one another, a subject who at each point remembers earlier and anticipates later versions of that story. Nothing literally or metaphorically crawls anywhere. But that's ok.

Conclusion

WMTS is a landmark contribution to the philosophy of time and its methodological invitation should be taken very seriously. But the role of temporal metaphysics in the field remains a puzzling one even for those who are on board with Callender's vision. The book is

¹ One might object that WMTS does consider these questions and offers answers. After all, Callender makes use of a distinction found in cognitive metaphor theory, between an ego-moving perspective and a time-moving perspective. In the former we think of ourselves as moving through time; in the latter we think of future events approaching us. We easily switch between these; so since we think of ourselves as enduring, we think of time as moving past our enduring selves. But this doesn't address the questions at issue. Metaphor is a technique 'for likening one thing to another by means of words' (Hills 2017). It lives in the realm of language, and perhaps also in the realm of cognition. But to speak of a self *metaphorically crawling* up a worldline, where this is intended as more than a mere rhetorical embellishment, one would have to somehow make sense of metaphor in the realm of metaphysics. In WMTS's terms, one would have to make sense of metaphorical things happening *in physical time*. This looks like a tall order; more importantly, it's the sort of project that leads straight back into temporal metaphysics.

marked by a lingering ambiguity between rejecting the A versus B debate and endorsing the B-theory. As we have seen, that ambiguity does philosophical harm to the proposed explanation of why we think time flows. Finally, given a principled rejection of the A versus B debate, the explanation could arguably stop much sooner, namely with the memory theory.²³

References

- Aaronson, S. (2016). The Ghost in the Quantum Turing Machine. In S. B. Cooper and A. Hodges (eds), *The Once and Future Turing: Computing and the World*, Cambridge: Cambridge University Press, 193–296.
- Balashov, Y. (2018). Review of C. Callender, *What Makes Time Special?* (Oxford, 2018). In *Notre Dame Philosophical Reviews*, 03/14/2018, <https://ndpr.nd.edu/news/what-makes-time-special/>
- Callender, C. (2017). *What Makes Time Special?* Oxford: Oxford University Press.
- Hartle, J. (2005). The Physics of Now. *American Journal of Physics*, 73(2): 101–109.
- Hills, D. (2017). Metaphor. *The Stanford Encyclopedia of Philosophy* (Fall 2017 Edition), Edward N. Zalta (ed.), URL = [<https://plato.stanford.edu/archives/fall2017/entries/metaphor/>](https://plato.stanford.edu/archives/fall2017/entries/metaphor/).
- Maudlin, T. (2018). Robust versus Anemic: Comments on Objective Becoming. *Philosophical Studies* 175: 1807-1814.
- Miller, K. (2013). Presentism, Eternalism, and the Growing Block. In H. Dyke and A. Bardon (eds.) *A Companion to the Philosophy of Time*, Wiley-Blackwell, 345-364.

² Admittedly, further philosophical work is needed to arrive at such a principled rejection.

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- Pooley, O. (2013). Relativity, the Open Future, and the Passage of Time. *Proceedings of the Aristotelian Society* 113: 321-363.
- Savitt, S. (2012). Of Time and the Two Images. *Humana Mente - Journal of Philosophical Studies*, 21: 57-68.
- Savitt, S. (2018). Review of C. Callender, What Makes Time Special?. *BJPS Review of Books*, <https://bjpsbooks.wordpress.com/2018/02/05/craig-callender-what-makes-time-special/#ref>
- Skow, B. (2015). *Objective Becoming*. Oxford: Oxford University Press.