Plenty to come: making sense of Correia’s & Rosenkranz’s growing block

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Abstract:

Fabrice Correia’s and Sven Rosenkranz’s book *Nothing to come: a defence of the growing block theory of time* offers an incredibly rich and skillful defense of the growing block theory (GBT), a view of time that arguably has much intuitive appeal, and which has been under attack from many sides. Nonetheless, I have to report that the book’s tense-logical course of treatment has not worked for me; I still struggle with making sense of the GBT. This article begins by drawing out some implications of the book’s set up. First, the notion of existence in play here is not interpretable on the basis of ordinary usage. Second, it would be a mistake to take the tense-logical framework to have any metaphysical significance. I then articulate two main worries about their version of the GBT. The first worry takes a familiar shape: it is just hard to see how their view is dynamic in the relevant sense. The second worry is that the topic seems to have been changed. C&R’s logical system helps itself to key notions whose intended interpretation includes a solution to every metaphysical puzzle about the GBT, so that these puzzles are not so much addressed as enshrined in a formal system. That is, their view seems to answer the question of how language should behave, if the GBT were (somehow) true.

It goes without saying that Fabrice Correia’s and Sven Rosenkranz’s *Nothing to come: a defence of the growing block theory of time* (Correia & Rosenkranz, 2018) is a must-read for philosophers of time. It also contains far more material than can be discussed in this space. In what follows I articulate my main sources of difficulty with making sense of their view.

The edifice of *Nothing to come* is built on foundations that Correia and Rosenkranz (hereafter ‘C&R’) have also elaborated on elsewhere. In (Correia & Rosenkranz, 2020b), the authors note that in everyday discourse, we frequently use the tensed verb ‘to exist’ to make claims such as that no man-made weather events existed until after the Industrial Revolution. They are surely right that in everyday discourse, we make such claims and think we understand what we are saying. Moreover, there seems to be no reason not to follow C&R in parsing this familiar and intelligible usage as concerning temporal location. So when we say that no man-made weather events existed until after the Industrial Revolution, we mean that no man-made weather events are temporally located at any time before the Industrial Revolution. So much for ordinary usage.

Philosophers, say C&R, are interested in more controversial ontological claims on which ordinary usage is silent. Philosophers are interested in whether, for instance, some of the things that are presently something were nothing before the Industrial Revolution. What exactly is it that interests philosophers here? Apparently, there is some issue in the vicinity that concerns the nature of time. But as we have seen, ordinary discourse about time and history and happenings in time is by stipulation irrelevant, since that kind of talk concerns the entirely separate matter of what is temporally located when, and according to the authors, it is of crucial importance not to conflate these issues. So we must look elsewhere for guidance.

 Some streams of the contemporary time literature have converged on the notion of tenseless existence or else existence simpliciter to answer this kind of query. What is at stake is what exists tenselessly or simpliciter, for example whether such things as dodos exist tenselessly or simpliciter. (Recall that dodos are, sadly, not temporally located at any times after the 1660s or so.) This notion can then be used to address the (‘skeptical’) query by saying that what exists in this sense may vary over time, for example because only what is present, or only what is present or past exists. Thus, one standard story goes, temporal ontology is all about whether what exists tenselessly or simpliciter varies over time or not.

This story may still rightly leave one puzzled, especially when combined with attempts to divorce temporal ontology from the wider metaphysical question of whether time is dynamic in some sense (Deng, 2018). Be that as it may, what matters here is that it is hard to avoid the impression that C&R find it unnecessary to engage with this kind of query. They find it unnecessary to understand the debate as centering on whether what tenselessly exists varies over time. Instead they simply think of it as being about tensed existence. What is at issue is what exists simpliciter, but where that is understood as a tensed notion. The special, technical, “expert” notion of existence on which temporal ontology rests (Torrengo, 2012) turns out to be tensed existence, which happily we are all familiar with from ordinary usage. Except that here, it means something that has nothing to do with ordinary usage.

“[I]n ordinary conversations in which we utter ‘Dodos no longer exist’, we are naturally understood to commit ourselves to nothing other than that dodos are no longer to be found anywhere.” “In philosophical contexts, by contrast, we […] use the tensed verb ‘to exist’ in order to speak […] about what is presently something but in the past was nothing.” (Correia & Rosenkranz, 2020b, p. 2002/2001)

This set up (which is inspired by Tim Williamson) has the curious consequence that the corner of logical space allocated to those who previously self-described as ‘B-theorists’ or ‘block universe theorists’ is now labeled ‘static permanentism’, where according to permanentism (opposed by temporaryism), Caesar and dodos always exist(s) and thus also presently exist(s). To those B-theorists (or indeed moving spotlight theorists, now dubbed ‘dynamic permanentists’) who feel uncomfortable being attributed these claims (see e.g. (Cameron, 2016)), C&R reply that this is precisely what has been meant by these theorists all along, since it merely states that Caesar is now, always has been in the past, and always will be in the future, in the domain of the absolutely unrestricted quantifier.

 Of course, if (like this author) one was anyway unsure what was meant by these theorists all along, then one has little reason to protest this move per se. But one does have reason to note what it implies. First, it again underscores that the notion of existence at stake here is a far cry from anything interpretable on the basis of ordinary usage. And second, it suggests that it would be a mistake to take the tense-logical framework to have any metaphysical significance.

Regarding the first point, above we already saw that temporal location is not what is at issue – and this is important if one is to persuade anyone to take on the permanentist’s mantle (dodos really are extinct). And needless to say, the permanentist does not have in mind some timeless other-worldly realm of eternity with quasi-religious overtones. What does that leave us with? The claim that always, everything always exists, or that always, everything is always something. The point is that this claim does not wear its meaning on its sleeve, even to the philosophically curious about time. It is a technical claim, couched in ideology drawn from (modal and tense) logic, and philosophical curiosity is properly directed not only towards whether it is true, but also towards what it should be taken to tell us about time.

The second point is that naively, one might approach tense-logic in this context with the expectation that the perspective of the present somehow matters. That is, naively one might think that saying something holds always in the past, in the present, and always in the future is importantly different from saying that it holds at all times, none of which is privileged in any way. But nothing of the kind is here implied by the tense-logical framing. Suppose one takes the (static) permanentist commitment to an always and presently existing Caesar (among other things) to amount to something like commitment to a block that does not grow (by somehow persisting unchanged in length (?)). Insofar as this aspires to be an accurate portrayal of the B-theory/block universe view, it presumably privileges no time, not even the one at which one is discussing temporal ontology. Saying that the block always was and always will be the same length, and that it presently is, has exactly the same significance as saying that it has the same length at all times, none of which are in any way privileged. So the tense-logical framework does not bring with it any sense in which the perspective of the present matters metaphysically, contrary to what one might naively have expected. (As we will see, C&R seem to agree with this; I come back to the point below.)

Since this set up is also at the heart of *Nothing to come*, it is worth pausing to let its dialectical significance sink in. C&R think many authors are simply confused as to what is at stake in debates about temporal ontology. C&R think these authors have accidentally conflated the notions of temporal location and existence simpliciter, both of which can (according to C&R) be expressed by the tensed verb ‘to exist’ (Correia & Rosenkranz, 2020b).

A different, more charitable, and arguably more accurate assessment of the situation is that it is somewhat unclear what is at stake in temporal ontology, so that all these authors are not making a simple mistake. Rather, they are effectively wrestling with the question of what can be at stake. And the reason they are not taking C&R’s way out is that their way out is also puzzling.

For example, C&R critique a claim by Ulrich Meyer that ‘Nothing exists now that is not present’ cannot be the presentist’s thesis, since “[t]o exist now and to be present are the very same thing” (Meyer, 2005). They first insist, with Daniel Deasy (Deasy, 2019), that ‘exists now’ and ‘is present’ cannot mean the same thing, because only the former is temporally rigid. Then, they charitably reconstruct the thesis as ‘Nothing exists at the present time that is not present’ and ask whether Meyer would have at least been right to reject *this* claim as trivial and hence as unsuited to express presentism. Their answer is ‘No’. According to C&R, Meyer was under the mistaken impression that ‘exists at the present time’ meant being temporally located at the present time. But while it usually means this in ordinary speech, it does not mean this in philosophy. In philosophy, ‘exists at the present time’ means being presently something and ‘being present’ means being temporally located at the present time.

However, even when one is doing philosophy, one is still first and foremost a temporal being whose access to time and temporal features is tied up with ordinary usage of temporal terms. So it is only natural, in trying to interpret a given philosophical claim purporting to be about time, to try to connect it with ordinary usage and temporal features of our lives. C&R do this themselves, albeit selectively, when they say that “[u]ncontroversially, if Caesar – the person, not his bodily remains – were located at the present time, he would be alive, and vice versa” (Correia & Rosenkranz, 2020b, p. 2008). But to call this “uncontroversial” is a bit misleading, because it suggests universal agreement on the matter of Caesar’s temporal location. Who determines what ‘temporally located at the present time’ means? Not ordinary language users. (When was the last time you saw a news item reported as being about the temporal location of something?) What ordinary usage delivers is at most that *some* expression, be it ‘exists now’ or ‘exists presently’ or ‘is temporally located at the present time’, should have the role of conveying uncontroversial facts about what happens when, and in the case of people, about when they are alive. Ordinary usage is unbothered about which expression this should be, so when C&R designate it to be ‘temporal location’, ordinary usage has no qualms. But ordinary usage pretty clearly has only a single job opening to fill here. Yet for temporal ontology, it is crucial that there be some *other*, additional notion in the vicinity. Meyer may best be understood as trying to make sense of this extra notion. And C&R’s announcement that this extra notion is that of being presently something amounts not so much to helping address this query as to dismissing it.

More generally, one might wonder whether these debates are really best viewed as aiming at the formulation and evaluation of some predetermined set of opposed views. Admittedly there is a certain amount of shared purpose in play; many participants have somesense of what the different positions in temporal ontology are supposed to say. But it need not follow from this that there is a uniquely correct way to (attempt to) formulate what may be at stake.

Consider now C&R’s contention that their version of temporaryism captures the intuitive idea of a growing and never eroding block with a single edge of becoming. I have two main worries about this.

(1) The first worry takes a familiar shape. It just seems hard to see how their view is dynamic in the relevant sense.

(2) The second worry is that the topic seems to have been changed. The GBT is about what time is like, metaphysically and ontologically. As a metaphysical theory, it is intended to be an answer to a very foundational question about time. Yet C&R’s logical system helps itself to key notions whose intended interpretation includes a solution to every metaphysical puzzle about the GBT, so that these puzzles are not so much addressed as enshrined in a formal system. Put another way, the worry is that C&R’s view answers the question of how language should behave, if the GBT were (somehow) true.

To see this, let us take a closer look at C&R’s response to Ted Sider in a chapter entitled “No funny business”, in which they argue that their version of the GBT emerges as “clearly superior” to previous versions. Sider maintains that the GBTist needs to make use of tense in two different senses. One sense of tense is “given an eternalist-style analysis in terms of the manifold”, while “the other captures the growth in the manifold” (Sider, 2001, p. 22). On the first sense, tenses are relative to times, much like they are for B-theorists; to evaluate tokens of tensed sentences we make use of the reference point of the time of utterance. On the second sense, tenses are not relative in this way. Instead, it is true *simpliciter* that reality used to be smaller and will be larger.

Sider argues for this by considering a current utterance of ‘it was once that case that the entire four-dimensional reality contained only one world war’.

“[I]f we evaluate the component sentence ‘the entire four-dimensional reality contains only one world war’ with respect to 1935 (let me stipulate that ‘the entire four-dimensional reality’ is to apply to *all* of reality), we obtain falsehood. The reason is that the component sentence concerns all of reality rather than just the ‘time of evaluation’, and hence evaluating the sentence with respect to 1935 is the same as evaluating the sentence for truth *simpliciter*. Since reality (now) contains a second world war, the sentence is false.” (Sider, 2001, p. 22)

 C&R respond by insisting that they have only one sense of tense, and that the temporal operator ‘in 1935’ shifts the time of evaluation to 1935, at which time it was true that reality was smaller and that it contained only one world war. So we obtain truth, not falsehood. C&R allow that one could define a phrase like ‘reality-as-it-is-now’, concerning which it would be false to say ‘in 1935, reality-as-it-is-now contains only one world war’. But that’s ok. ‘Now’ is temporally rigid, but other temporal terms, like ‘reality’ and also ‘the present time’, are not. What’s the problem?

 Here is one way to put the problem. Recall that the tense-logical framework has no metaphysical significance. As already hinted, C&R even seem to agree with this.

“[O]ur adoption of the operator approach to tense, and our corresponding assumption that the language to be used contains tensed clauses on which temporal operators operate, in no way prejudge the issue of whether tensed propositions that are not always true can ever be true *simpliciter*.” (Correia & Rosenkranz, 2018, p. 11)

Thus, it is this latter issue that is supposed to be definitive of the question of dynamism. What is supposed to make some views (including the GBT) dynamic is that on these views, what is true *simpliciter* changes, so that the facts composing reality change. In particular, on temporaryism, facts about what exists compose reality only temporarily.

 However, this kind of dynamism leaves no trace on C&R’s view. If ‘composing reality only temporarily’ is to mean more than just composing reality relative times (in which case even a B-theorists could hold that facts about what exists compose reality temporarily), at some point the perspective of the present time has to be given some metaphysical weight. This is what Sider’s second sense is designed to do, and C&R want no part of it.

In other words, C&R’s minimalism leaves one with the sense that, appearances notwithstanding, they do not mean anything at all by ‘dynamism’, ‘compose reality’, or ‘true *simpliciter*’. They do not mean what is suggested by the growth metaphor. Facts about what exists are not really disappearing from temporal reality, to be replaced by others. Rather, there is a four-dimensional block (or a stock of times) to begin with, and then tense-logical machinery is used to validate some claims that sound like the GBT.

 C&R may respond that this again unfairly saddles the GBT with strange and incoherence-charge-inviting commitments. Perhaps it is significant that the authors leave out talk of ‘truth *simpliciter*’ in similar work elsewhere. Thus, (Correia & Rosenkranz, 2020a) offers a logic for the GBT that is very similar to the one in *Nothing to come* and in fact is there described as more philosophically satisfactory. C&R describe their task as one of providing (a) a temporal language, (b) a semantics that allows one to specify expansionist (GBT) models for such a language, and (c) an axiomatic proof-theoretic system that is adequate with respect to these models. The models are based on structures containing a non-empty set of entities in the extension of a predicate T for ‘times’, as well as a domain function D which assigns to each time that time itself and all times related to it by a relation called ‘earlier’. But what makes these entities times, and what makes the relation the earlier relation? The GBT is about the nature of time. As a metaphysical theory, its talk of becoming or temporal passage is supposed to concern issues integral to what makes time(s) time(s). By contrast, C&R’s system seems to put the cart before the horse and make the horse redundant (worry (2) above). Similarly, C&R demand that the models be proper, in that the set must have at least two members, and they justify this by saying the condition is there “to capture the view that there is (a minimal amount of) temporal passage” (Correia & Rosenkranz, 2020a, p. 4). But if the set’s having two members already captures a minimal amount of temporal passage, so that the set’s having more members captures temporal passage, then why is anything else needed? Why stipulate that the different domains associated with the different ‘times’ include all ‘earlier’ ‘times’ and why ensure that the axiomatic proof-theoretic system be adequate with respect to these models?

 Another way to express worry (1) is this. What C&R say in response to Sider reads like a description of what a good old-fashioned B-theorist would be happy saying too (and by the terms of this discussion, the B-theory does not include dynamism in the relevant sense). Suppose we take ‘now’ to be temporally rigid and other temporal terms including ‘the present time’ and ‘reality’ (meaning all of reality), to not be temporally rigid. A good old-fashioned B-theorist has no reason to disallow these semantic devices. Moreover, they too should think that ‘in 1935, reality-as-it-is-now contains only one world war’ comes out false, while ‘in 1935, reality contains only one world war’ comes out true. Just interpret these as saying, respectively, that in 1935, world-history-up-until-now (i.e. world-history-up-until-2020) contains only one world war, which is false, and that in 1935, world-history-up-until-the-present-time (i.e. world-history-up-until-1935, the then present time, in the non-absolute B-theoretic sense of ‘present’) contains only one world war, which is true. No growth here, right? So where is the growth on C&R’s view?

 C&R might respond by again pointing to (static) permanentism as the proper formulation of their opposition and insisting that their view differs from (static) permanentism, since permanentists deny that sometimes some things sometimes do not exist. But as mentioned, it may take some persuading to get B-theorists to wear this new garment, and anyway the question remains how C&R’s view includes more dynamism than does the B-theory in its usual guise.

 Lest it be thought unfair to look for signs of dynamism in a chapter merely intended to answer charges of incoherence and show there is no funny business, note that the incoherence-charges and funny business always derived from the wish for dynamism. C&R’s version emerges unscathed by these problems only by being untroubled by these motivations.

 C&R’s response to the epistemic (‘now now’) objection takes us back to questions about the overall set up. C&R identify two presumptions underlying the epistemic objection, both of which they reject. Focus on *presumption A*, which is that the GBT’s commitment to the continued existence of (e.g.) Nero and his belief that he is on the edge of the block implies that Nero is, on the GBT, currently still believing to be on the edge of the block. C&R reject this as clearly absurd:

“If it really was a consequence of GBT that dead people are presently believing things, it would hardly need a sceptical challenge to put it to rest!” (Correia & Rosenkranz, 2018, p. 88)

Fair enough, in a way. But what *does* the GBT’s commitment to the continued, current existence of Nero and his belief that *p* amount to, if it does not amount to Nero’s continuing to believe i.e. currently believing that *p*? Again, basing the debate on a tensed notion of existence only seems to make it (more) opaque. C&R cite Prior’s contention that we should distinguish “between the history that an event *has*, and the bit of history that it *is*” (Prior et al., 2003, p. 10) and point out that it is legitimate to refer to past events as events rather than mere ex-events even when they are no longer unfolding. But this is legitimate only because in thinking of events as existing in the sense of being part of history, one makes use of a tenseless notion of existence, which notion was designed for precisely this. Those events exist – not currently, but tenselessly. Yet C&R insist that these events, along with Nero and his belief, currently exist in a tensed sense. What can this mean, if it doesn’t mean Nero is currently believing something?

 Finally, note that this insistence on a tensed notion of existence is important for C&R’s purposes (despite the acknowledged lack of metaphysical significance of the tense-logical framework). For instance, they argue that Michael Tooley’s version with its ‘As of *x*’ operator is problematic precisely because Tooley takes quantification to be tenseless. As a result, ‘As of *x*’ has to be interpreted as a “simple means to restrict tenseless quantification in ways that make the resultant theory vulnerable to hostile takeover by eternalists, i.e. proponents of a static universe” (Correia & Rosenkranz, 2018, p. 52).

 C&R’s defense of the GBT is stimulating and thought-provoking. It merits serious attention by philosophers of time for years to come.[[1]](#footnote-1)

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