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Published in:
Johanssonian Investigations

2013

[Link to publication](#)

Citation for published version (APA):

Hansson Wahlberg, T. (2013). Dissolving McTaggart's Paradox. In C. Svennerlind, J. Almäng, & R. Ingthorsson (Eds.), *Johanssonian Investigations* (Vol. 5, pp. 240-258). Ontos Verlag.

Total number of authors:

1

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Dissolving McTaggart's Paradox

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1. Introduction

John Ellis McTaggart famously argued that time is unreal (McTaggart 1908; 1927 Ch. XXXIII). His argument can be summarized thus:

- (1)time is real if and only if there is change;
- (2)there is change if and only if the A-series is real;
- (3)the A-series is contradictory;
- (4)therefore, time is unreal.

The A-series, for McTaggart, is “the series of positions [in time] running from the far past through the near past to the present, and then from the present to the near future and the far future” (McTaggart 1908: 458); he contrasts it with the B-series, which is “the series of positions [in time] which runs from earlier to later” (ibid.).

The argument is valid, so if the conclusion is to be denied at least one of its premises must be rejected. Most modern commentators are realists about time and they tend to accept premise (1), so they typically reject either (2) or (3). Few reject both (2) and (3). Generally, B-theorists, who endorse the reality of the B-series but not the A-series, deny (2),¹ while A-theorists, who endorse the A-series, deny (3) (at least, as long as the A-series is construed in “presentist” terms, so that the past and the future are conceived as no longer existing and yet to exist, respectively).²

¹ See e.g. D. H. Mellor (1981; 1998).

² Presentism as a general doctrine is succinctly defended by A. N. Prior (1970/1998); for discussion of how there can be an arrow of time given presentism, see Ingvar Johansson (2011). For discussions of McTaggart's argument for (3), given a presentist framework, see e.g. C. D. Broad (1938/1968), A. N. Prior (1967 Ch. I), Ferrel Christensen (1974), W. L. Craig (1998; 2000, Ch. 6), R. D. Ingthorsson (2002), and Thomas Crisp (2005); L. N. Oaklander criticizes the presentist strategy in his (1999; 2003; 2010). For a general, critical evaluation of presentism, see my (2009b).

For my part, I find premise (1) plausible, and, moreover, I join B-theorists in thinking that premise (2) is false (for details, see my 2009b). However, what sets me apart from most B-theorists is that I am not convinced that (3) is true. In particular, I find McTaggart's argument for (3) flawed. In this paper I endeavour to show what exactly is wrong with it.³

In what follows I will assume, for the sake of the argument and along with McTaggart, that past, present and future positions in the A-series, and their contents, are ontologically on a par. (Let us call the position under scrutiny the *maximal A-theory*.) Consequently, my reasoning, unlike that of most A-theorists, will not rely on presentist assumptions.⁴ Rather, I shall argue, drawing on earlier work of mine (particularly my 2010), that if we pay heed to the grammatical *tense*, and the lack thereof, in McTaggart's argument, and if we keep in mind the different character of tensed and tenseless predication, we will see that his argument is either invalid or, if valid, harmless. In neither case does McTaggart succeed in establishing (3).

2. McTaggart's *reductio ad absurdum*

According to McTaggart, if time were real the following situation would obtain (see in particular his 1908). First, there would be a C-series of events constituting the total history of the universe. (A C-series is simply an *ordered* series. The C-series of events is granted existence irrespective of the reality of time. However, McTaggart submits that if time is not real, then strictly speaking it is incorrect to refer to the objects of the C-series as "events".) Secondly, the characteristic of presentness would, as it were, pass along the C-series.⁵ As a result of this movement the maximal A-series would be instantiated: events and times ("positions") which, on this realist construal, have been present would be *past*, and events and times which, on this realist view, will be present would be *future*. Thirdly, as a consequence of the reality of the C- and

³ Theodore Sider is a B-theorist who rejects McTaggart's argument for (3), but he does not explain why he rejects it—he rests content with quoting C. D. Broad, who called it a "howler" (Sider 2001: 35, n. 19).

⁴ Notable exceptions are E. J. Lowe's (1987) and Quentin Smith's (1994). I comment briefly on these papers below.

⁵ McTaggart (1908: 467–469; 1927: 19) discusses whether the characteristic of presentness (and pastness, and futurity) should be construed as a quality or as a relation that events and times would bear to something outside of time. He settles for the latter, but claims that the issue has no bearing on his argument.

A-series, the B-series would be instantiated. That is, it would arise out of the C- and A-series, and indeed it could not exist without them: and then events and times which, on this realist construal, are past when some event *e* is present would be *earlier* than *e*, and events that are future when *e* is present would be *later* than *e*.⁶ Hence, if time were real, the A-, B- and the C-series would all be real.

But, McTaggart maintains, the notion of the A-series is contradictory, and consequently only the C-series is real. The contradiction is arrived at in the following way:

Past, present and future are incompatible determinations. *Every event must be one or the other, but no event can be more than one.* If I say that any event is past, that implies that it is neither present nor future, and so with the others. And this exclusiveness is essential to change, and therefore to time. For the only change we can get is from future to present, and from present to past.

The characteristics, therefore, are incompatible. *But every event has them all.* If [event] *M* is past, it has been present and future. If it is future, it will be present and past. If it is present, it has been future and will be past. Thus all the three characteristics belong to each event. How is this consistent with their being incompatible? (McTaggart 1927: 20, my emphasis; see also his 1908: 468)

The question at the end of the quotation is rhetorical. McTaggart does not think that all three characteristics could belong to each event if past, present and future are incompatible determinations. He takes the A-series, as characterized, to entail a straightforward contradiction: viz., that an arbitrary event of the series is either only past, only present or only future *and* that it is not the case that the event is either only past, only present or only future (since every event—except for the first and the last one, if there are such events—have all of the characteristics).

Let us grant McTaggart that “the only change we can get is from future to present, and from present to past”. (In fact, as I indicated in the Introduction, I think McTaggart is mistaken about this: change in a pure B-series is possible.) The question I want to investigate here is whether a sentence of the form:

⁶ The definitions of “earlier than” and “later than” are only implicit in McTaggart’s 1908 paper and the 1927 chapter on time; he explicitly defines “earlier than” in chapter LI of his 1927 book (p. 271).

(A) M is present and M is future and M is past

follows from a sentence of the form:

(B) M is present and M has been future and M will be past.

Clearly, that inference would require the copulas in (A) to be *tenseless*. The *present-tensed* version of “ M is future” does *not* follow from “ M has been future”, nor does the present-tensed version of “ M is past” follow from “ M will be past”. (At least, intuitively; below I present a model for the maximal A-theory, based on McTaggart’s own reasoning, which demonstrates that such inferences are indeed invalid.)

But what does it mean to say of an event M that it is tenselessly past, tenselessly present and tenselessly future? In my (2010) I argued that we should distinguish three kinds of tenseless copula (or three different senses that tenseless copulas can have).⁷

First, there is the timeless, unqualified tenseless copula. This says that the predication holds *simpliciter*. This copula—which we shall call the “simpliciter-copula”—is used, for example, when we ascribe properties to abstract, timeless entities such as numbers.⁸

Then there is the tenseless copula which is equivalent to “always was, is and always will be”. This says that the predication holds *at all times of the subject’s existence*. This copula—the “always-copula”—may be used to ascribe unchanging properties to entities existing in, and over, time.

A third kind of tenseless copula is equivalent to “was, is or will be”. This says that the predication holds *at some time(s) of the subject’s existence*. This latter copula—the “at-some-time(s)-copula”—can be

⁷ In his celebrated discussion of McTaggart’s argument, C. D. Broad (1938/1968) mistakenly assumes that there is only *one* kind of tenseless copula: the timeless one (I call it the simpliciter-copula). In consequence, he holds, incorrectly as we shall see, that sentences of the form “ M is past” are senseless if they are read tenselessly. Ferrell Christensen also assumes there is only one kind of tenseless copula. He states: “McTaggart is surely right in saying that sentences of the form ‘ X is past’, ‘ X is present’ and ‘ X is future’, in which the ‘is’ is tenseless, would issue in contradiction” (1974: 291). D. H. Mellor—who endorses McTaggart’s argument for (3)—writes: “I have tacitly treated the ‘is’ in ‘ e is past’ as a tenseless copula, which is why e ’s being past, present and future appear to be contradictory” (1981: 96–97; cf. 1998: 76).

⁸ For further applications, see my (2010).

used to ascribe temporary, i.e. changing, properties to entities existing in time. Moreover, it can be qualified with a time clause specifying exactly when the property is instantiated.⁹ Note that it would be ungrammatical to add time clauses qualifying the always- and the simpliciter-copula (for extensive discussion, see my 2010).

What kind of tenseless copula, if any, occurs in (A)? On consideration one can see that only the at-some-time(s)-copula can underwrite the derivation of (A) from (B). That is, (A) should be taken to express the following:

(A'): (*M* was, is or will be present) and (*M* was, is or will be future) and (*M* was, is, or will be past).¹⁰

Trivially, if *M* is (present tense) present, then *M* was, is or will be present; if *M* has been future, then *M* was, is or will be future; and if *M* will be past, then *M* was, is or will be past. But if any of the other tenseless copulas is used the derivation is invalid. For example, from the putative fact that *M* will be past it does not follow that *M* is past *simpliciter*; neither does it follow that *M* always was, is and always will be past. In both conclusions pastness is treated as an *unchanging* characteristic.¹¹

⁹ Such qualification of the copula—and thereby the represented *having* or *instantiation* of the property expressed by the predicate—is sometimes referred to as “adverbialism”. Ingvar Johansson complains in his otherwise positive review of my (2009b) that the disjunctive reading of the tenseless copula does not do justice to the essential idea of adverbialism, namely that “it is the exemplification relation itself that primarily is a temporally relative affair” (Johansson 2010: 94). I agree that the exemplification relation is to be understood as a temporally relative affair in many cases. In fact, that was one of the points made in my (2010) (contained in my (2009b) in a pre-print form). Moreover, the issue discussed in the present paper is a prime example of such a case. (I restricted my attention to phenomena in pure B-series time in my (2010), however.) But in order to *state* such a temporally relative affair, with a *tenseless* copula, the copula had better be of the disjunctive character described above, for reasons discussed in my (2010).

¹⁰ E. J. Lowe (1992) also analyses sentences like (A) as involving a conjunction of disjunctions. The details of our accounts differ, however.

¹¹ If, as McTaggart speculates, the determinations are *relations* that events may bear to some kinds of thing beyond first-order time, such as second-order times (see below), then it might be proposed that *M* is past-at-*t simpliciter* (where *t* denotes a second-order time). In this way the simpliciter-copula would be put to use. But I do

However, if (A) is interpreted as (A'), it turns out to be perfectly compatible with the compelling claims:

Past, present and future are incompatible determinations. Every event must be one or the other, but no event can be more than one. If I say that any event is past, that implies that it is neither present nor future, and so with the others. (McTaggart 1927: 20)

I think we must take McTaggart's claim that every event must be one or the other to convey the idea that the *present-tensed* "is past", "is present" and "is future" cannot be true of one and the same event at a single time. If the "be" were intended to convey tenseless predication of the determinations, it would be false to say that no event can be (tenselessly) more than one.¹² As we have just seen, a suitably tenseless version of (A) is derivable from (B). That McTaggart does indeed have present-tensed predication of the characteristics in mind here is indicated by his remark: "If I say that any event is past, that implies that it is neither present nor future, and so with the others." At any rate, this sentence is true only if we are concerned with a present-tensed "is".

To sum up, an A-theorist of the sort discussed by McTaggart can consistently accept both "Past, present and future are incompatible determinations" and "every event has them all." The claims are compatible, because they deal with present-tensed and tenseless predication, respectively. The illusion of contradiction only arises if we ignore this fact.¹³

not think McTaggart means to express such propositions. First of all, he never explicitly writes sentences such as "*M* is past-at-*t*". Secondly, *being past-at-t* and *being future-at-t'* (where *t'* denotes a distinct second-order time) are not *incompatible* relational characteristics. Thirdly, such relational determinations do not *change*. McTaggart is after incompatible but changing characteristics of events, be they intrinsic or extrinsic.

¹² *Pace* D. H. Mellor, who says " $Pe \not\vdash -Ne; Ne \not\vdash -Fe; Fe \not\vdash -Pe$; etc.", although the suppressed copula is explicitly held to be tenseless (Mellor1998: 73 & 77; see also his 1981: 93 & 97). If we are concerned with a suppressed at-some-time(s)-copula, the entailments do not hold. If the suppressed copula is of the simpliciter or the always variety, then "*Pe*" in Mellor's formula expresses the proposition that *e* has tenselessly the *unchanging* characteristic *P* (pastness), which is counter to the premise that we are dealing with changeable characteristics.

¹³ The attentive reader will have noticed that, up to this point, McTaggart's argument parallels David Lewis's problem of change (Lewis1986: 202–204; 1988). The latter argument is meant to show that an object that changes in pure B-series time will *per impossible* have incompatible properties. I rebut Lewis's argument,

We cannot end the discussion here, however. Anticipating the kind of answer just given (to some extent, at least) McTaggart goes on to reason as follows:

It is never true, the answer will run, that *M is* [present tense] present, past and future. It *is* present, *will be* past, and *has been* future. Or it *is* past, and *has been* future and present, or again *is* future and *will be* present and past. The characteristics are only incompatible when they are simultaneous, and there is no contradiction to this in the fact that each term has all of them successively.

But what is meant by "has been", and "will be"? And what is meant by "is", when, as here, it is used with a temporal meaning [i.e. when it is present-tensed], and not simply for predication [presumably McTaggart has some kind of tenseless copula in mind here]? When we say that *X has been Y*, we are asserting *X to be Y* at a moment of past time. When we say that *X will be Y*, we are asserting *X to be Y* at a moment of future time. When we say that *X is Y* (in the temporal sense of "is"), we are asserting *X to be Y* at a moment of present time.

Thus our first statement about *M*—that it is [present tense] present, will be past, and has been future—means that *M* is present at a moment of present time, and future at some moment of past time. But every moment, like every event, is both past, present, and future. And so a similar difficulty arises. (1927: 21)

McTaggart here appears to concede that the present-tensed version of (A) does not follow from (B). He holds, however, that a contradiction can nevertheless be derived from (B) because (B) involves an implicit commitment to there being times, or moments, which are past, present and future—something they cannot be, because these determinations are incompatible.

That is, according to McTaggart, (B) entails:

(C) There are times that are past, present and future.

exploiting reasoning similar to that developed in this paper, in my (2007) and (2010).

And McTaggart alleges that (C) contradicts the thesis (treated as an axiom, in effect) that “Past, present and future are incompatible determinations”.

This looks like an expression of the same confusion all over again, although this time the subjects of the allegedly contradictory predications are times, not events. However, although I think that the same kind of fallacy is indeed committed once more—an equivocation between tensed and tenseless predication—the situation is more complicated this time. First, it is not altogether clear exactly what McTaggart’s complaint is at this stage. He expresses his view somewhat differently in his 1908-article and 1927-chapter, on both occasions densely and rather cryptically. Moreover, the metaphysics and semantics that are involved when times past, present and future are spoken of are rather convoluted. Let us, therefore, go through the issue in a low gear. (For convenience and following C. D. Broad (1938/1968) and others I will occasionally refer to the incompatible determinations as “A-characteristics” or “A-determinations”.)

For the sake of the argument, let us accept McTaggart’s claim that sentences of the form “*X* was *Y*” should be analysed as “*X* is *Y* at a moment of past time”. For example, “*M* was future” should be reformulated as “*M* is future at a moment of past time”. The structure and content of such analyses can be discussed and questioned (e.g. Broad 1938/1968; Christensen 1974; Lowe 1987; and this paper below), but the crucial point made by McTaggart is that a sentence of the form “*X* was *Y*” should be understood as involving reference to a *time* which *itself* is subject to change with respect to A-determinations. *This* aspect of the analysis I think many will find intuitively plausible—but with the important caveat that the reference to a time can be understood in two drastically different ways, as I will now show. (McTaggart does not explicitly address this ambiguity of a “time” or “moment” in the sections at issue; I suspect this may lead the incautious reader astray.)

On the first construal, the time referred to is a *first-order* time: that is, roughly, a set or sum of simultaneous events, or the location of such a set/sum. Such a first-order time can be denoted by a date or clock-time. Now, is it plausible to treat McTaggart’s sentences of the form “*M* is future at a moment of past time” as referring to such first-order times? (That would be the pre-reflective reading of McTaggart, I suspect, given that first-order times seem to be involved in sentences like “The leaf is

green at a past time”). To investigate this, suppose that the event M , and the first-order time of M , is present (Figure 1).

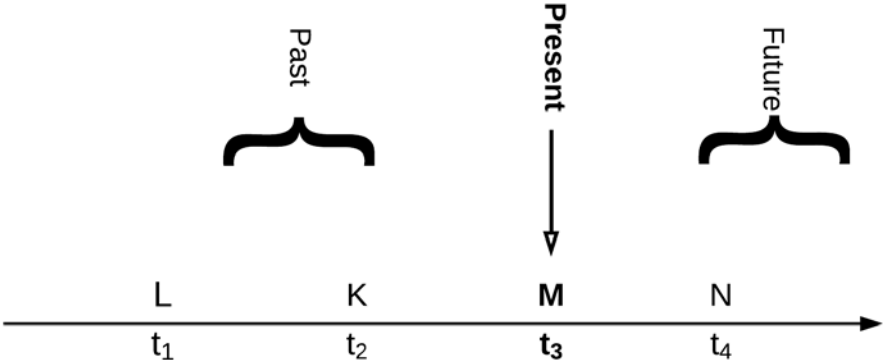


Fig. 1.

Does “ M is future at a moment of past time” come out true, if “past time” picks out a first-order time (say, t_1) that is past (present-tense)?

Well, if “is” in “ M is future” is present-tensed—in which case “at a moment of past time” is best understood as a sentence operator saying where in time the shorter “ M is future” is true (cf. my 2010)—the answer is *no*. At the past time, the shorter “ M is [present tense] future” is false. It is false because M instantiates presentness, not futurity. Of course, M is *later* than the past time, but *that* fact does not determine the truth value of “ M is future” on the maximal A-theorists’ scheme of things: such sentences’ truth values are determined by whichever of the A-characteristics the subject is instantiating. B-theorists can hold that the shorter “ M is future”, taken as indexed to a time earlier than the time of M , is made true by the fact that M is later than the index-time, but such a semantics runs counter to the spirit of the maximal A-theory. (More on this below. See also McTaggart’s critical discussion of Bertrand Russell’s B-theoretical semantics: according to McTaggart, tensed sentences are made true, in part, by subjects’ absolute position in the A-series, not by their relative position in the B-series (McTaggart 1927: 15–16).)

Now compare the situation when the copula in “ M is future at a moment of past time” is tenseless and the past time is a first-order time which is (present tense) past. Since “future” is meant to signify a *changing* characteristic, the time clause “at a past time” is now best understood as qualifying the tenseless copula, and thereby the

represented possession of futurity by M .¹⁴ The result is that we are dealing with the at-some-time(s)-copula. On this interpretation, the sentence also turns out to be false, because event M is not located at a past first-order time (remember, event M is located at the present first-order time, t_3) and cannot, therefore, instantiate futurity *at* such a time.

Thus, whether or not the copula is taken as present-tensed, or as tenseless, “ M is future at a moment of past time” emerges as false if “at a past time” is construed as referring to a first-order time. It is reasonable to conclude that neither analysis involving first-order times captures what “ M was future” expresses in the mouth of a rational maximal A-theorist; it is also reasonable to conclude that McTaggart is *not* asserting that his analysis involves first-order times (unless he has simply made a mistake).¹⁵

What I think McTaggart *is* advocating is that the time referred to in sentences such as “ M is future at a past time” is a *second-order* time, even if he does not use that expression explicitly. Such a “time” is not a set/sum of simultaneous events, or the location of such a set/sum—it is not a proper part of the C-series. Rather, it is a complex state of affairs consisting of the C-series (the whole of it) in a certain configuration with respect to what A-characteristics are instantiated by which events and first-order times. For example, a second-order time might be the C-series in a configuration where event M is present, earlier events are past, and later events are future. A distinct second-order time might be the C-series in a configuration where some earlier event L is present and M is future. Together, such second-order times make up a second-order C-

¹⁴ Construed as a sentence operator, the time clause “at a past time” would be redundant if the copula is tenseless (see my 2010). (Notice that the time clause turned out to be redundant above, too, as a sentence operator picking out a first-order time, given a present-tensed copula.) It is clear that the time clause is not treated as redundant by McTaggart, however. If the clause were regarded as a predicate-operator, the sentence would express the straightforward falsehood that M has, tenselessly, the unchanging characteristic of being future-at-a-moment-of-first-order-past-time.

¹⁵ Here I disagree with Sanford (1968). He thinks that McTaggart refers to higher-order times in his (1908), but to first-order times in his (1927). I doubt McTaggart changed his mind on this issue, because McTaggart’s 1927 analyses (briefly sketched already in his 1908: 468–469) come out as false if they refer to first-order times. However, I believe Sanford is correct to suggest that the later McTaggart saw that the circularity objection (which I do not address in this paper), occurring in his 1908 paper only, was defunct (for reasons nicely explained by Sanford).

series. Importantly, these second-order times change in respect of second-order A-characteristics, and in doing so they constitute a second-order A-series and a second-order B-series (this is what makes it appropriate to call these complex state of affairs second-order *times*). The instantiation of second-order A-characteristics by second-order times determines what events and first-order times are past, present or future in first-order time (Figure 2). For example, if the first mentioned second-order time is present, then *M* and its first-order time are present (because this second-order time (t'_2) *consists*, in part, of the state of affairs of *M* being present in first-order time). If the second second-order time is present, then *L* and its first-order time are present, while *M* and its first-order time are future (because this second-order time (t'_1) *consists*, in part, of the state of affairs of *L* being present in first-order time).

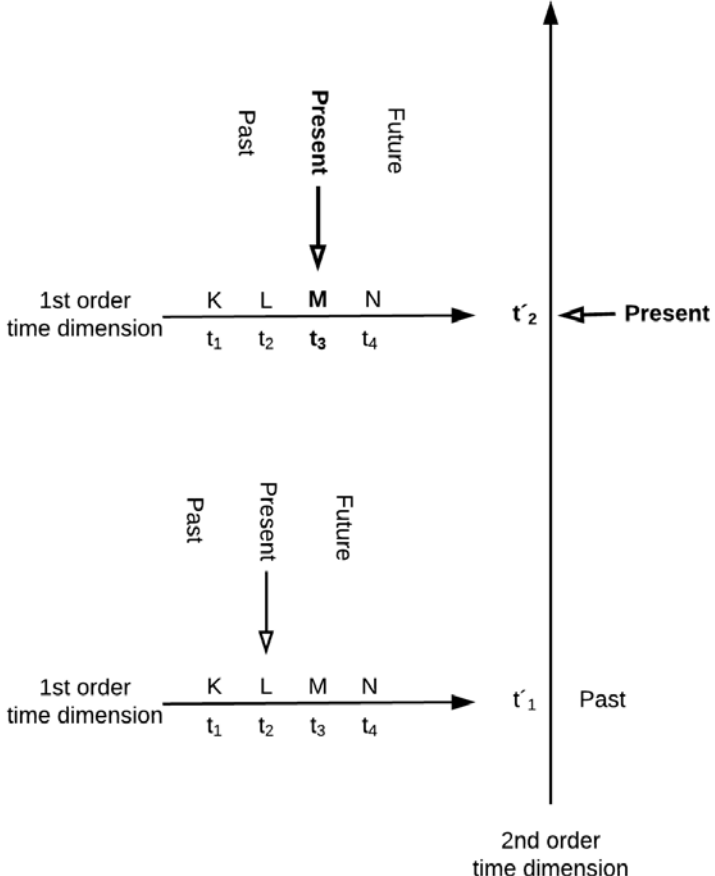


Fig. 2.

That McTaggart has something like this complex picture in mind is indicated, I think, by remarks such as the following: “If we avoid the incompatibility of the three characteristics by asserting that *M* is present,

has been future, and will be past, we are constructing a second A series, within which the first falls, in the same way in which events fall within the first” (McTaggart 1908: 469).

The idea, in short, is that in “*M* is future at a moment of past time” the clause “at a moment of past time” picks out a second-order time that is past in second-order time. (Starting with the simpler “*M* was future” we can express the idea by saying that the “was” involves tacit reference to a second-order time that is past in second-order time.)

Scrutinizing the details of the account we should, again, ask whether the copula in “*M* is future at a moment of past time” is present-tensed or tenseless. If it is present-tensed, then “at a moment of past time” is once again best understood as a sentence operator,¹⁶ saying in effect that “*M* is future” is true at a past second-order time—which the shorter sentence apparently is given this framework. (We have stipulated that *M* is present—i.e. presently present—and hence that the second-order time which is present in second-order time is a time consisting, in part, of *M*’s being present in first-order time. In a *past* second-order time *M* has the first-order characteristic of being future.¹⁷) If the copula is tenseless then it is adverbially modified by “at a moment of past time”, and hence it is of the at-some-time(s)-variety. On this understanding “*M* is future at a moment of past time” also comes out true, because *M* is located at a moment of second-order past time and *M* was-at-that-time future (“was”, since the second-order time is past); so *M* was, is or will be future at a moment of past time.¹⁸ Since “*M* is future at a moment of past time” comes out true on both interpretations, we need not bother over the tense in such sentences (i.e. sentences providing analyses of the shorter “*X* was *Y*”) if they are taken to refer to second-order times.

The vital question now is whether (C), understood as involving second-order times, is entailed by (B) as it is understood by maximalist

¹⁶ This time, when picking out a second-order time, the time clause is not redundant as a sentence operator; cf. footnote 14.

¹⁷ Hence, the theory involves the idea that events are multiply-located in second-order time (although not in first-order time). The phenomenon of multiple location is counterintuitive, but it has not been shown to be contradictory—not even where the multiply-located entities are supposed to change across the dimension over which they are said to be repeated (cf. my 2007; 2009a).

¹⁸ A sentence such as “*M* is (tenselessly) past at a moment of past time” comes out as false, as it should. *M* was not, at any past second-order time, past.

A-theorists; and if so, whether (C) contradicts the axiom that the A-characteristics are incompatible.

Whether or not maximalist A-theorists are obliged to accept the details of McTaggart's analysis of sentences of the form "*M* was future", it seems that McTaggart is correct (on our construal of him) to say they must accept that such sentences refer to higher-order times. At least, it seems that they have to accept this unless they adopt some kind of B-theoretical semantics utilizing the relations *simultaneous with*, *earlier than* and *later than* instead of the A-characteristics. Typically, however, maximalist A-theorists spurn B-theoretical semantics,¹⁹ and if they were to adopt a B-theoretical analysis of such sentences it would be unclear why they endorse the A-series. Moreover, it would be difficult for them even to state the *content* of the maximal A-theory in a way that distinguishes it from the B-theory.²⁰ For these reasons, I think we should put the B-theoretical semantics of sentences of the form "*M* was future" to one side at this point. We can then provide a short explanation of why maximal A-theorists have to accept second-order times (echoing what was said earlier, when we discussed McTaggart's analysis of tensed sentences on the hypothesis that they refer to first-order times).

The way the world is at present, the Second World War (WWII) is past. Thus when a maximalist A-theorist says, for example, that WWII *was future*, "was" cannot pick out the first-order years before WWII, because as the world objectively is at present, WWII is past. This present fact about WWII does not change from different "perspectives" of the C-series, as it currently is. So, in order for "WWII was future" to be true the word "was" must pick out *a past configuration of the C-series* in which WWII is future. Such a configuration of the C-series is a second-order time.²¹

¹⁹ E. J. Lowe (1987) might be an exception; he adopts some kind of indexical theory of tensed locutions, claiming that they function like "here" and "there", and "you" and "I". B-theorists generally regard tensed expressions as indexicals (e.g. Mellor 1981; 1998).

²⁰ E. J. Lowe struggles with this issue in his (1987: 68–70); for criticism, see Robin Le Poidevin and D. H. Mellor (1987).

²¹ Maximalist A-theorist Quentin Smith would analyse "WWII was future" as "Pastness inheres in the futurity of WWII" (cf. Smith, 1994: 205). According to Smith this analysis does not involve reference to a second-order time. I fail to see, however, what kind of state of affairs such an analysis is supposed to describe. Moreover, L. N. Oaklander (1994: 212–213) argues that Smith's analysis requires that the exemplification of futurity by WWII is present and past *simultaneously*—

Thus, (B) does indeed appear to involve reference to second-order times exemplifying A-characteristics, when asserted by a (rational) maximal A-theorist.

Furthermore, because second-order times themselves change in respect of the A-determination they instantiate—a phenomenon which determines the changes of A-characteristics in first-order time—maximalist A-theorists can say, using a tenseless at-some-time(s)-copula, that these second-order times are past, present and future. If they do so, it should be observed, the tensed copulas that make up the tenseless at-some-time(s)-copula have to be interpreted as referring to *third-order* times that are themselves either past, present or future (Figure 3). (A third-order time (e.g. t''_2) consists of a second-order C-series of second-order times that is in a certain configuration regarding what A-characteristics are had by which second-order times.)

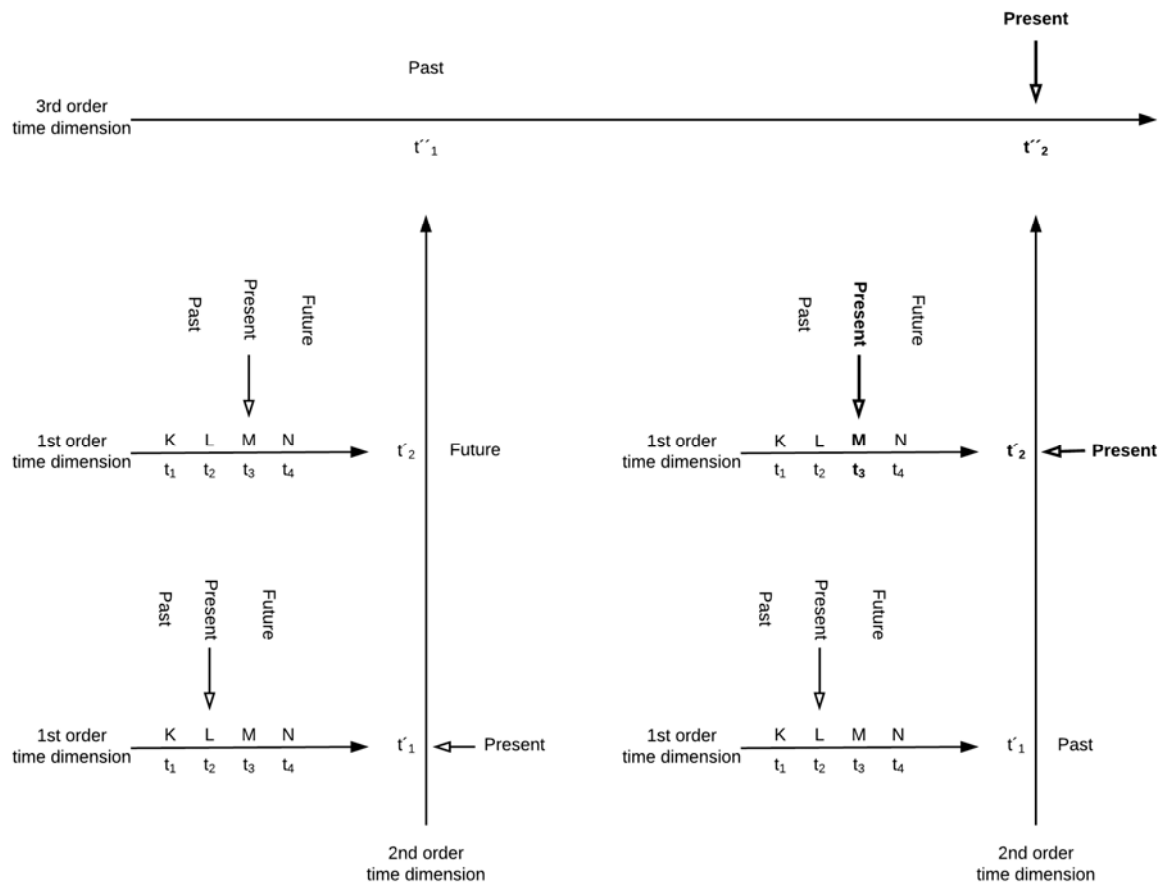


Fig. 3.

which it cannot be given the axiom that the A-characteristics are incompatible. It seems to me that the only way to render the discourse of the maximalist A-theorists intelligible and consistent is to analyse it as involving reference to higher-order times.

From a logical point of view there is nothing objectionable about this, although one may balk at the regress of higher-order times for Occamist reasons. The tenseless copula is merely raised, so to speak, to a higher level. Just as the tenseless copula consisting of a disjunction of tensed copulas ranges over second-order times in sentences of the form “Event X is (tenselessly) future”, the tenseless copula ranges over third-order times (that are either past, present or future) in sentences of the form “Second-order time T is (tenselessly) future”.

It seems, then, that (C)—understood tenselessly and as involving reference to second-order times—does indeed follow from (B). Thus interpreted, does it contradict the axiom that the characteristics are incompatible? No.

Again, the A-characteristics are incompatible only in the sense that no event and no time can have them simultaneously. But when it is said of a second-order time that it is tenselessly past, present, and future, no such thing is implied. It is merely being said that it was, is or will be (understood in the way described above) past; that it was, is or will be present; and that it was, is or will be future.

The present-tensed version of (C) does not follow from (B). This version of (C) involves the claim that there is a second-order time that is past, present and future at the present third-order time, but this proposition is not entailed by what is expressed by (B) on a maximalist A-theorist reading. To attribute such an entailment to McTaggart is to saddle him with an invalid inference. (Returning to (A), I can now state in a more precise way why the present-tensed version of (A) does not follow from (B). The present-tensed version of (A) says, on the proposed semantics, that M is present, future and past at the present second-order time (here, t'_2). The conjuncts of (B), however, refer to *distinct* second-order times: the first to the present second-order time, the second to a past second-order time, and the third to a future second-order time.)

The same line of reasoning is applicable to each level of McTaggart’s ascending regress:

The attribution of the characteristics past, present, and future to the terms of any series leads to a contradiction, unless it is specified that they have them successively. This means, as we have seen, that they have them in relation to terms specified as past, present, and future. These again, to avoid a like contradiction, must in turn be specified as past, present and future. And since this continues infinitely, the first

set of terms never escapes from contradiction at all. (1927: 22) You can never get rid of the contradiction, for, by the act of removing it from what is to be explained, you produce it over again in the explanation. (1908: 469)

At each level, either McTaggart makes a *valid* inference regarding *tenseless* predication of A-determinations, or else he makes an *invalid* inference regarding *present-tensed* predication of A-determinations. In the first alternative, no contradiction arises. In the second, the maximal A-theorist need not be bothered by his argument.

3. Conclusion

McTaggart does not show the notion of the maximal A-series to be contradictory. His argument to this effect involves an equivocation between tensed and tenseless predication. However, I believe he was right to think that the concept of the maximal A-series involves tacit commitment to an infinite series of higher-order A-series (cf. Broad 1938/1968: 124–126; Smart 1949). The latter gives us reason enough, I think, to dismiss the reality of the maximal A-series.²²

References

- Broad, C. D. (1938/1968). “Ostensible Temporality”, in R. M. Gale (ed.), *The Philosophy of Time: A Collection of Essays*, London: Macmillan, 117–142.
- Christensen, F. (1974). “McTaggart’s Paradox and the Nature of Time”, *The Philosophical Quarterly*, 24:97, 289–299.
- Craig, W. L. (1998). “McTaggart’s Paradox and the Problem of Temporary Intrinsic”, *Analysis*, 58:2, 122–127.
- Craig, W. L. (2000). *The Tensed Theory of Time*, Dordrecht: Kluwer Academic Publishers.
- Crisp, T. (2005). “Review L. Nathan Oaklander, *The Ontology of Time*”, *Notre Dame Philosophical Reviews*, <http://ndpr.nd.edu/news/24544/?id=2201>, 2012-10-10.
- Hansson, T. (2007). “The Problem(s) of Change Revisited”, *dialectica*, 61:2, 265–274.

²² For discussion of the credibility of higher-order A-series, see my (2009b: 24–26) and N. J. J. Smith (2011: 245–247).

- Hansson Wahlberg, T. (2009a). “Endurance Per Se in B-time”, *Metaphysica*, 10:2, 175–183.
- Hansson Wahlberg, T. (2009b). *Objects in Time: Studies of Persistence in B-time*, dissertation, Lund: Media-Tryck. Available online at <http://philpapers.org/archive/HANOIT.1.pdf>
- Hansson Wahlberg, T. (2010). “The Tenseless Copula in Temporal Predication”, *Erkenntnis*, 72:2, 267–280.
- Ingthorsson, R. D. (2002). *Time, Persistence and Causality: Towards a Dynamic View of Temporal Reality*, dissertation, Umeå: Solfjädern Offset AB.
- Johansson, I. (2010). “Review: Tobias Hansson Wahlberg, *Objects in Time. Studies of Persistence in B-time (2009)*”, *Metaphysica*, 11:1, 93–94.
- Johansson, I. (2011). “Order, Direction, Logical Priority and Ontological Categories”, in J. Cumpa & E. Tegtmeier (eds.), *Ontological Categories*, Ontos Verlag, 89–107.
- Le Poidevin R. & Mellor D. H. (1987). “Time, Change, and the ‘Indexical Fallacy’”, *Mind*, 96:384, 534–538.
- Lewis, D. (1986). *On the Plurality of Worlds*, Oxford: Blackwell Publishing.
- Lewis, D. (1988). “Rearrangements of Particles: Reply to Lowe”, *Analysis*, 48:2, 65–72.
- Lowe, E. J. (1987). “The Indexical Fallacy in McTaggart’s Proof of the Unreality of Time”, *Mind*, 96:381, 62–70.
- Lowe, E. J. (1992). “McTaggart’s Paradox Revisited”, *Mind*, 101:402, 323–326.
- McTaggart, J. E. (1908). “The Unreality of Time”, *Mind*, 17:68, 457–474.
- McTaggart, J. E. (1927). *The Nature of Existence*, Vol. II, London: Cambridge University Press.
- Mellor, D. H. (1981). *Real Time*, Cambridge: Cambridge University Press.
- Mellor, D. H. (1998). *Real Time II*, London: Routledge.
- Oaklander, L. N. (1994). “McTaggart’s Paradox Revisited”, in L. N. Oaklander & Q. Smith (eds.), *The New Theory of Time*, New Haven: Yale University Press, 211–213.

- Oaklander, L. N. (1999). “Craig on McTaggart’s Paradox and the Problem of Temporary Intrinsic”, *Analysis*, 59:4, 314–318.
- Oaklander, L. N. (2003). “Presentism: A Critique”, in H. Lillehammer & G. Rodriguez-Pereyra (eds.), *Real Metaphysics*, London: Routledge, 196–211.
- Oaklander, L. N. (2010). “McTaggart’s Paradox and Crisp’s Presentism”, *Philosophia*, 38:2, 229–241.
- Prior, A. N. (1967). *Past, Present and Future*, London: Oxford University Press.
- Prior, A. N. (1970/1998). “The Notion of the Present”, in P. van Inwagen & D. W. Zimmerman (eds.), *Metaphysics: The Big Questions*, Oxford: Blackwell, 80–82.
- Sanford, D. H. (1968). “McTaggart on Time”, *Philosophy*, 43:166, 371–378.
- Sider, T. (2001). *Four-Dimensionalism: An Ontology of Persistence and Time*, Oxford: Oxford University Press.
- Smart, J. J. C. (1949). “The River of Time”, *Mind*, 58:232, 483–494.
- Smith, N. J. J. (2011). “Inconsistency in the A-theory”, *Philosophical Studies*, 156:2, 231–247.
- Smith, Q. (1994). “The Logical Structure of the Debate about McTaggart’s Paradox”, in L. N. Oaklander & Q. Smith (eds.), *The New Theory of Time*, New Haven: Yale University Press, 202–210.