Aspects and the Alteration of Temporal Simples*

Donald L. M. Baxter

University of Connecticut
Department of Philosophy
344 Mansfield Road, Unit 1054
Storrs, CT 06269-1054, USA
donald.baxter@uconn.edu

Article info
CDD: 115
Received: 27.06.2016; Accepted: 04.10.2016
DOI: http://dx.doi.org/10.1590/0100-6045.2016.V39N4.DB

Keywords:
Aspects
Alteration
Time
McTaggart's paradox
numerical identity
Leibniz's law

ABSTRACT
According to David Lewis, alteration is "qualitative difference between temporal parts of something." It follows that moments, since they are simple and lack temporal parts, cannot alter from future to present to past. Here then is another way to put McTaggart's paradox about change in tense. I will appeal to my theory of Aspects to rebut the thought behind this rendition of McTaggart. On my theory, it is possible that qualitatively differing things be numerically identical. I call these differing, numerically identical things "aspects." I will argue that alteration can be a qualitative difference between temporal aspects of something that lacks temporal parts. So a moment can alter in tense. By rejecting Lewis's assumption my theory can solve this version of McTaggart's paradox.

* I'm grateful for helpful criticism from Katherine Fazekas; from participants of the "Themes from Baxter II" conference in Ligerz, Switzerland, October 2013, organized by Philipp Blum for EIDOS, the Center for Metaphysics at the University of Geneva; from participants of the "Gargnano Philosophy of Time Conference," Gargnano, Italy, May 2014; and especially from Andrew Parisi and from an anonymous referee.

David Lewis sees change, i.e. alteration, as "qualitative difference between temporal parts of something." It follows that "what doesn't have temporal parts can't change." One example he gives is "the events of any moment of time." They can't change because they can't be "subdivided into dissimilar temporal parts" (Lewis 1976, p. 146). The same thing could be said of the moments themselves. These remarks give another way to look at McTaggart's paradox about change in tense: Only persisting things can alter. Moments are instantaneous so do not persist. If instantaneous moments were future, then present, then past then something that does not persist would alter. So moments are not future, then present, then past.

The thoughts behind this rendition are that alteration is having a property then lacking it (or vice-versa), and that the time at which the property is had must be distinct from the time at which it is lacked on pain of contradiction. So the thing that alters must exist at more than one time. Moments, however, do not exist at more than one time. Therefore they cannot alter. Here I have generalized from Lewis' perdurantist way of putting things.

I will appeal to my Theory of Aspects to rebut the thought behind this rendition of McTaggart. On that theory, it is possible that qualitatively differing things be numerically identical. I call these differing, numerically identical things "aspects" and use qualifiers such as 'insofar as' to form expressions that refer to aspects. So, for example, I will suggest that midnight January 1, 2016 insofar as it is future, differs from that midnight insofar as it is present, but that they are numerically identical. Aspects such as these can be called "tense aspects." I will argue that with tense aspects in hand we can reject Lewis's assumption that alteration requires existing at different times and solve McTaggart's paradox.

Note that I will be assuming, not proving, that there are A-series tenses. Note also that I will not be giving an account of the dynamic passage of time. My overall goal is restricted to explaining how A-series change in tense can be understood without contradiction. To do so requires explaining (i) how the same moment can have conflicting tenses, and (ii) how the "when" when the moment has one tense can differ from the "when" when that moment has another tense, even though the moment does not exist at different moments.

To accomplish these purposes, I will first explain and motivate the Theory of Aspects. After that I will present a new version of McTaggart's paradox,

and show it can be solved. I will then use the results to give an account of the alteration of temporal simples.

I.

I will argue that there can be qualitative complexity without quantitative complexity. That is, there is qualitative self-differing that cannot be explained by saying that something is intimately related to or partly made up of numerically distinct things. Another way to put it is that things have numerically identical but qualitatively differing "aspects." [1]

Here is the theory in a nutshell, subject to further motivation and explanation. Aspects are incomplete, dependent entities that are numerically identical with the complete entities--the individuals--that they depend on. There can be qualitatively differing aspects identical with the same individual, and so with each other. Thus, while Leibniz's Law applies to individuals, it does not generalize to aspects.

Note that the qualitative complexity that I argue for is not explicable in terms of "distributional properties," nor "regionalized properties," nor "regionalized instantiation" of properties, nor "localized tropes" (Parsons 2004; Schaffer 2010, pp. 57-60; McDaniel 2009). Distributional properties involve heterogeneity over space or time, and the others involve heterogeneity over space. The differing aspects that I argue for need not differ with respect to space or time.

To begin, let me stipulate that self-differing, if such there be, is best expressed with phrases involving what I will call "Qualifiers," such as 'insofar as' and 'in some respect.' [2] In such cases these phrases are what I will call "Nominal Qualifiers," that is, are parts of noun phrases, such as 'Hume as philosopher.' I will assume that they are semantically significant. This construction will allow contradictories to be predicated of the same thing in a way that Leibniz's Law is silent about. For instance 'Hume as an agent is satisfied on this point, but Hume as a philosopher is not' (See Hume 2000,

[1] Other places where I discuss aspects are Baxter (1988, sect. IV), (1989), (1999), and (2001).

[2] I originally got the term from Allan Bäck (1982).

sec. 4, par. 21). The negation in 'Hume as a philosopher is not satisfied', with its restricted scope, can be thought of as an internal negation, as opposed to an external negation such as 'It is not the case that Hume as philosopher is satisfied.' In the former the nominal qualifier is *not* in the scope of the negation, and in the latter it is. I will not argue that in ordinary language these phrases work this way, though I think they often do. I am just stipulating how I am going to use vocabulary.

I'll give two considerations in favor of self-differing.

First, consider cases in which someone is torn about what to do or how to feel. A dramatic case is that of Euripides' Medea who struggles with herself whether to kill her children to punish their father Jason who has abandoned her.

> Ah, Ah! Why do you gaze at me with your eyes, children? Why do you smile your last smile? Oh, what shall I do? My courage has gone, women now that I've seen the shining eyes of the children. I couldn't do it. Goodbye to my former plans! I'll take my children from this land. Why should I, in harming them to give their father pain, make myself suffer twice as much? I cannot. Goodbye plans!
>
> But what is happening to me? Do I want to make myself ridiculous, letting my enemies go unpunished? I must go through with this. What a coward I am--even to admit soft words into my mind! . . . I shall not weaken my hand.
>
> Ah, Ah! Don't, my heart, don't you do this! Leave them alone, wretched heart, spare the children! Living there with me they will give you joy.
>
> By the avenging furies down in Hades, I swear I'll never leave these children for my enemies to insult and torture! They must certainly die; and since they must, then I who gave birth to them shall kill them.[3]

Insofar as Medea is enraged at the father, she wants to kill the children. Insofar as she loves them, she has no desire to kill them. She is torn. She is in conflict with herself. She differs from herself. Medea's struggle is between two aspects of her: Medea insofar as she is enraged at Jason *versus* Medea insofar as she loves her children.

[3] Excerpted and translated in Annas (2001, pp. 111-12).

Such struggles with ourselves are all too common, even if less fevered than Medea's. Who has not been moved opposite ways by love and anger in a custody dispute, or in child-rearing, or in a close relationship? Self-differing is something we all experience.

But is this literal self-differing? Many will say that we merely have opposing desires--ones that cannot both be satisfied. The conflict is between them, not between one and oneself. However, this way to make theoretical sense of the self-differing is not true to the phenomenon.

Desires are not like quarrelsome children in being opponents one is merely related to. To have internal conflict like Medea's is like trying to move in opposite directions. Or it is "to take something to oneself and to cast it off" as Plato puts it. This internal opposition indicates a complexity in oneself, as argued in the *Republic* (Plato 1974, 435c-441c, especially 437b). Plato's view has been justly influential in pointing out this complexity downplayed by the objection. Nonetheless, it seems to me to be going too far to conclude, as Plato seems to, that internal opposition shows the soul to have numerically distinct parts. That conclusion neglects the unitariness of the soul. It is one oneself who tries to move in opposite directions.[4]

Further, the relevant conflict here is not just desiring to do incompatible things. The conflict is that one has a desire and lacks it. Though Medea insofar as she is enraged at Jason has a desire to kill her children, Medea insofar as she loves her children lacks all desire to do so. It is not that Medea insofar as she loves her children is moved to oppose another desire she has. Insofar as she loves her children she is not moved by the murderous desire at all.

Secondly, a less dramatic consideration suggests that there are aspects. Consider a whole with a blue part and a white part. What color is the whole? True, it has a part that is blue and a part that is not blue, but that is changing the subject because the parts are each numerically distinct from the whole.[5] What about the whole itself? Obviously it has color. Suppose that color is

[4] There is a "single consciousness" as Sartre emphasizes in his discussion of bad faith and his criticism of Freud's division of the "psychic whole" (Sartre 1984, pp. 89, 91).
[5] Here I assume the standard view of parts rather than my own view as in Baxter 1988.

intrinsic.[6] Then the whole either lacks color, since at best it would have color only in relation to its parts, or it is partly blue and partly not blue. That is, it insofar as it is in one place is blue and it insofar as it is in another place is not blue. It does not lack color. Therefore, it has these aspects.

One might resist aspects by saying merely that the whole has a distributional property of being blue here and not blue there (Parsons 2004). While this is true, it does not by itself explain the "Yes and no" answer to the question whether the whole resembles the blue sky. Insofar as it is blue it resembles the sky; insofar as it is white it does not. Something with a non-uniform distributional property differs from itself. It has aspects.

Saying that there is self-differing sounds contradictory. But the use of nominal qualifiers such as 'insofar as' removes explicit contradiction. I am not saying that Medea does and does not want to spare her children. Nor am I saying that Medea in one respect wants to spare her children and in no respect wants to spare her children. Either of those would be contradictory. I am saying that Medea insofar as she loves her children wants to spare them, but Medea insofar as she is enraged at their father does not want to spare them. The negation is internal, that is, has short-scope relative to the nominal qualifier and so there is no contradiction.

But aren't I violating Leibniz's Law--the principle that for any x and y, if they are numerically identical then all the same things are true of them? After all, I am suggesting that the nominally qualified phrases refer to aspects, where aspects qualitatively differ but are numerically identical.

However consider the domain of quantification for Leibniz's Law. It is a principle concerning single things. The quantifier is a singular quantifier. Does it hold of pluralities, that is, what you would quantify over with a plural quantifier? Maybe, but the original principle is silent about that. I suggest that the original principle is silent about aspects as well. And the non-contradictory internal negation in claims about self-differing suggests that Leibniz's Law does not apply to aspects. Here is an account that would explain why.

---

[6] Or suppose that the whole is partly bent and partly straight (See Lewis 1986, pp. 202-204, 210). Note that when supposing that color is intrinsic, I take it that we are supposing that an object's having color is not a matter of standing in a relation to something numerically distinct from the object. That also rules out having color being a matter of a relation to a universal of trope numerically distinct from the object. An object has color in virtue of itself.

Distinguish complete entities from incomplete entities, in terminology drawn from Descartes (1984, p. 130, pp. 156-157; AT p. 185, p. 222). Complete entities are individuals that can exist on their own. Incomplete entities are dependent on complete entities. They are incomplete in having fewer properties than it takes to exist on one's own.

Lebniz's Law is certainly applicable to complete entities like individuals. The same thing can't be true and false of the same individual without contradiction. However, I am proposing that there are incomplete entities numerically identical with individuals: aspects. Phrases such as 'the white globe insofar as it is white' refer to aspects, not the individuals they are numerically identical with. Besides singular reference--reference to complete entities such as individuals--there is aspectival reference--reference to aspects. The domain of quantification for Leibniz's Law includes all the complete entities, but does not include the incomplete entities numerically identical to some of them.

One might worry that a relation not characterized by Leibniz's Law cannot be numerical identity. I confess that I don't understand this worry. Why, in a world of altering things, would one think that being numerically identical requires being exactly resembling? Altering things come to differ from themselves. I can understand that, in the world of eternal, unchanging *mathematical* objects, the identical would necessarily be exactly resembling. I conjecture that Leibniz's Law is currently entrenched in the theory of identity as the result of work in logic with an eye to mathematics (See Tarski 1941, p. 55). Alternatively, one might assume that any violation of Leibniz's Law yields contradiction (See Wiggins 1967, p. 4). However, I have already shown that this assumption is not true.

Note that since aspects of the same individual are numerically identical to it, they are numerically identical to each other. I have been calling the discernibility of identicals, "self-differing." But it is more precisely the qualitative differing of something in one respect from itself in another, i.e. the qualitative differing of numerically identical aspects of it.

II.

McTaggart famously argues that the passage of time is contradictory. I will argue that an appeal to aspects resolves the contradiction, and then argue that the appeal to aspects can be used to explain the alteration of temporal simples. Let the examples of simple instantaneous entities be moments.

McTaggart tells us that change from future to present to past cannot be conceived of without contradiction. Call these characteristics, "tenses." The argument goes as follows: No moment can have more than one tense on pain of contradiction: To be present is to be not future and not past, etc. But every moment was future then became present then became past. So every moment has more than one tense (McTaggart 1927, ch. 33, sec. 329). So a contradiction is true of every moment.

At first glance the solution seems easy. Just say that no moment is future, present, and past at the same time; each tense is had at a different time. The tenses are had temporarily. However, this is not yet a solution, because moments don't exist at different times. They only exist at themselves. So if a moment has the different tenses at the different moments it exists at, and those different moments are all the same moment, viz. itself, then the moment is past, present, and future at one time. The contradiction is not yet resolved.

Something seems right about the response that different tenses are had at different times, but there needs to be a way to give it that does not covertly assume that moments exist at different moments. Another fairly easy move seems to be to say that every moment is present relative to itself, future relative to all moments before it, and past relative to all moments after it. Moments are past, present, or future relative to other moments. Having a tense is a relation between a moment and another moment or moments.

However, on this proposal the tenses are just reduced to B-series relations: being present relative to a moment is just being simultaneous with that moment, being future relative to some moments is just being later than them, being past at some moments is just being earlier than them. The fact that no moment is both later than and simultaneous with, nor later than and earlier than, nor simultaneous with and earlier than any moment ensures that no moment has more than one tense relative to the same moment. Despite this advantage, this approach would just be to concede that we cannot conceive

of the A-series change from future to present to past without contradiction and that the A-series needs to be jettisoned from our theorizing in favor of the B-series. There are no absolute tenses that change; there are only relative tenses that hold timelessly.

So the introduction of relative tenses cannot be a way of eliminating tenses at the explanatory level if it is to be a proposal for showing that A-series change in tense can be understood without contradiction. That suggests a more complicated account of relative tense. A moment has a tense temporarily by having it relative to another moment when that other moment itself has a certain tense. So, for instance, January 1 is present relative to December 31 when December 31 is one day past. If this proposal allows a moment to have its tense relative to some moments and not others, then the goal of temporary tenses will have been achieved.

However, as I will show, on this more complicated proposal any moment is present relative to all moments, and past relative to all moments, and future relative to all moments. So the proposal does not yet make sense of the claim that different tenses are had at different times. So any moment has more than one tense at the same time. So the contradiction is still true of every moment. Here I take myself to be presenting McTaggart's own response in a new way (McTaggart 1927, sec. 331).

To show this let me argue with a simplified example. Suppose there are three moments -- m1, m2, and m3 -- such that m1 is one unit of time earlier than m2, m2 is one unit of time earlier than m3 and m1 is two units of time earlier than m3.

```
m1    m2    m3
|_____|_____|
```

First, m2 is present relative to all moments. m2 is present relative to m1 when m1 is one unit past; m2 is present relative to m2 when m2 is present; m2 is present relative to m3 when m3 is one unit future. Likewise, m2 is past relative to all moments: m2 is past relative to m1 when m1 is two units past; m2 is past relative to m2 when m2 is one unit past; m2 is past relative to m3 when m3 is present. It follows that m2 is present relative to all moments and one unit past relative to all moments. So there is no moment relative to which it is present and not past. So there is a contradiction at every moment.

One might object that the apparent contradiction is resolved by paying attention to the phrases 'when it is present' and 'when it is one unit past'. However, there is no "when," no moment, picked out by one phrase that is not also picked out by the other.

As in the simplified example, so in time. So we have not found a way to resolve McTaggart's contradiction and have not found a way to respect the intuition that the different tenses are had at different times. I suggest that we separate these two goals. The first can be addressed by introducing aspects. The second can be addressed by noting relations between aspects.

First, every moment has aspects each of which corresponds to a tense -- call them "tense aspects." So for example, each moment has a one-year-past aspect, and a present aspect, and a three-days-future aspect. It is not that these aspects exist in past or future moments. They exist only in the moment they are part of. Time becomes, as it were, two dimensional on this scheme. There is the axis along which moments are arrayed, and the axis along which tense aspects are arrayed. However, all a moment's tense aspects, though differing, are numerically identical. So moments are still simple. This scheme resolves McTaggart's paradox. Every moment is past, present, and future, but in different respects. That is to say, it has aspects that are past, an aspect that is present, and aspects that are future. The aspectival distinction enables contrary properties to be true of numerically identical things.

McTaggart's paradox arises from not acknowledging sufficient complexity in moments. Aspects provide a complexity to the simple, i.e., a qualitative complexity to the quantitatively simple. The following chart illustrates the complexity. I'll use 'qua' as short for 'insofar as it is'.

m1qua two units past	m2 qua one unit past	m3 qua present
m1 qua one unit past	m2 qua present	m3 qua one unit future
m1 qua present	m2 qua one unit future	m3 qua two units future

|_____|_____|

So far I have explained how numerically identical things can be future and present and past without contradiction. This is the solution to McTaggart's

paradox. But this is just to explain the self-differing of temporal simples. What remains is to explain the intuition that different tenses are had at different times. For that, I need to explain the sense in which something is future, *then* present, *then* past. That is, I need to explain the *successiveness* of the tenses. Explaining this successiveness will be to give an account of the alteration of temporal simples.

Here I can only give a partial explanation. For some reason, when we think of the succession of tenses, we think in terms of a moving present. Why don't we think in terms of a moving one-unit-past? Or a moving two-years-future? I'm not sure. Perhaps it is because we experience things as in the present. In any event, because we favor the present, we think of the order of tenses in terms of the order of moments insofar as they are present. We think of Midnight, January 1st, 2016's being one day future as happening before its being present because midnight December 31st insofar as it is present is one day before midnight January 1st insofar as it is present. The ordering of all the tenses a moment has reflects the ordering of all moments insofar as they are present. In the chart, the down-to-up direction of successive aspects of a moment reflects the ordering in the left-to-right direction of successive moments.

Note that each given aspect of a moment is coordinated with an aspect in every other moment. We learned this lesson when considering the more complicated relative tenses. For example m2 insofar as it is present is coordinated with m1 insofar as it is one unit past and with m3 insofar as it is one unit future. In the chart, coordinated aspects are in the same horizontal row. Any one of coordinated aspects gives the "when" of a tense. When is m2 present? It is present at m1 insofar as it is one unit past, at m2 insofar as it is present, and at m3 insofar as it is one unit future.

Thus we regard all the tenses a moment is as ordered one before the other, even though the moment does not exist at other moments. So we consider the having of all these aspects to be an alteration in the moment that occurs as each successive moment becomes present.

At first it may appear that I have introduced another dimension of time--a hypertime--in which time changes tenses. However, I have not introduced any moments other that those that are in ordinary time. Any aspect at which a moment has a tense is numerically identical with some moment of ordinary time.

One might object that I have given a static picture of time and its aspects and so have not sufficiently explained the dynamic passage of time. That is true, but is no objection. I have not set out to explain time's dynamic passage. My goal has only been to resolve the contradiction McTaggart describes for absolute tenses, and to explain the "when" at which tenses are had. Dynamic passage is likely explained by some feature of the tenses or the having of them that is beyond the scope of my discussion.

Thus the alteration of temporal simples does not require that the simple exist at different moments and not be simple. It just requires that the tense aspects of the temporal simple be coordinated with the present-tense aspects of successive moments.

References

ANNAS, J. ed. *Voices of Ancient Philosophy: An Introductory Reader*, New York: Oxford University Press, 2001.

BÄCK, ALLAN "Syllogisms with Reduplication in Aristotle," *Notre Dame Journal of Formal Logic,* XXIII, pp. 453-58, 1982.

BAXTER, D. "Many-One Identity," *Philosophical Papers,* XVII, pp. 193-216, 1988.

_____ "Identity through Time and the Discernibility of Identicals," *Analysis* XLIX, pp. 125-131, 1989.

_____ "The Discernibility of Identicals," *Journal of Philosophical Research* XXIV, pp. 37-55, 1999.

_____ "Instantiation as Partial Identity," *Australasian Journal of Philosophy* LXXIX, pp. 449-464, 2001.

COTTINGHAM, J., STOOTHOFF, R., and MURDOCH, D. *The Philosophical Writings of Descartes*. Cambridge: Cambridge University Press, 1984.

DESCARTES, R. Third and Fourth sets of replies, in *Objections and Replies*. In Cottingham, J., Stoothoff, R., and Murdoch, D. (trans.) (1984), pp. 121-137 & 154-178.

HUME, D. *An Enquiry concerning Human Understanding*, ed. T. Beauchamp, Oxford: Clarendon Press, 2000.

JACKSON, F,. and PRIEST, G. *Lewisian Themes: The Philosophy of David K. Lewis*. Oxford: Oxford University Press, 2004.

LEWIS, D. "The Paradoxes of Time Travel," *American Philosophical Quarterly* XIII, pp. 145-52, 1976.

_____ *On the Plurality of Worlds*, Oxford: Basil Blackwell, 1986.

MCDANIEL, K. "Extended Simples and Qualitative Heterogeneity," *The Philosophical Quarterly* XXX, p. 325-331, 2009.

MCTAGGART, J. *The Nature of Existence*, Vol. 2, Cambridge: University Press, 1927.

PARSONS, J. "Distributional Properties." In Jackson, F. and Priest, G. (eds.) (2004), pp. 173-80.

PLATO. *Republic*. Transl. by G. M. A. Grube, Indianapolis, IN: Hackett, 1974.

SARTRE, J.-P. *L'Être et le néant*. Paris: Librairie Gallimard, 1943. *Being and Nothingness*. Trans. By H. Barnes, New York: Washington Square Press, 1984.

SCHAFFER, J. "Monism: The Priority of the Whole," *Philosophical Review* CXIX, pp. 31-76, 2010.

TARSKI, A. *Introduction to Logic*. New York, 1941.

WIGGINS, D. *Identity and Spatio-Temporal Continuity*. Oxford, Blackwell, 1967.