Studies in History and Philosophy of Modern Physics 52 (2015) 103–105

Contents lists available at ScienceDirect

Studies in History and Philosophy of Modern Physics

journal homepage: www.elsevier.com/locate/shpsb

The burning fuse model of unbecoming in time

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ARTICLE INFO

Article history:
Received 14 September 2013
Received in revised form
29 April 2014
Accepted 15 July 2014
Available online 10 August 2014

Keywords:
Endurance
Eternalism
Perdurance
Possibilism
Presentism
Time

ABSTRACT

In the burning fuse model of unbecoming in time, the future is real and the past is unreal. It is used to motivate the idea that there is something unbecoming in the present literature on the metaphysics of time: its focus is merely the assigning of a label "real."

1. Introduction

Please imagine a long fuse hanging down from the ceiling. It is a carefully woven tube of fabric that holds a core of gunpowder. We note that it is beautifully made, with brightly colored threads intertwined with the coarser bare cotton. It is a masterpiece of the modern weaver's art.

We take a match, strike it and bring it to the end of the fuse that is dangling near the floor. It takes and emits a sputtering fire that shoots sparks onto the floor. We stand and watch as the fire gradually ascends. Our attention is held by the flaming point that slowly advances upward. Those parts of the fuse ahead of the fire take their turn to be consumed by it and to disappear into the ashes. The beautifully woven fuse is reduced to a powder so light that it is scattered and disappears.

This is the burning fuse model.[1] The advancing point of fire is the now. It consumes the future, the unburnt fuse, which is converted into the past, the scattered nothingness of ashes.

What is the relative ontic status of the past and future in the model? It is the inverse of the growing block model. In that model, the function of the present is to actualize the mere possibilities in the future into the realities of the past. In the burning fuse model, the future states carry the capacity of being able to come to be present. That capacity is realized in momentary fires of the present after which all reality is extinguished. The future is real; the past is not.

Which model should we prefer? The key novelty of the burning fuse model is the recognition that future events carry a property that is not carried by past events: they carry the capacity of being able to come to be present. Past events do not carry that capacity. Once they are past, they are spent. The capacity is lost. Indeed they carry no potentialities at all.

Let us grant that the carrying of a potentiality or a capacity endows something with a reality. Otherwise, what carries the potentiality? By that standard, future events have greater claim to reality than do past events. But we have not allowed degrees of existence, so the only way we can maintain the requisite ontic difference of future and past is to ascribe a real existence to future events but not to past events.[2]

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[1] I am grateful to an anonymous referee for alerting me to an earlier appearance of the model in Santayana (1940, p. 90), perhaps with a different purpose: "The essence of nowness runs like fire along the fuse of time, but the particular spark is different at each point. The various contents of these various *nows* therefore combine perfectly to form the unchangeable truth of history."

[2] For another defense of the reality of the future and the unreality of the past, see Casati and Torrengo (2011). They note that we believe it is possible to travel to future events merely by living, but we cannot travel to past events. They are gone.

http://dx.doi.org/10.1016/j.shpsb.2014.07.004
1355-2198/

At this point, if I have done my job well, you are starting to wonder if I have taken leave of my wits. I am arguing for the reality of the future and the unreality of the past. Of all combinations that we might consider, that would appear to be the least credible. In spite of the appearance of caution and rigor, there is obviously something wrong in the burning fuse model that should not survive closer scrutiny.

Yes, creating that sense of unease is my purpose. It is how I feel about the burning fuse model. My real point is that I have the same feeling about the entire debate over presentism against eternalism against growing block possibilism; or perdurantism against endurantism.[3] On the surface, we seem to be debating something concrete and important. Yet that sense evaporates when we probe beneath the surface. It is the same with the burning fuse model. I am using it as a foil to suggest that there is something unbecoming in this debate over becoming.

The old positivists are guilty of many excesses. That some proposition has no observable consequences does not render it meaningless. They were rightly chastised for overreach in suggesting otherwise. However they were on to something. If there are no observable consequences, then there can be no brake from experience for a runaway imagination. When we have a proposition with this unfortunate feature, we ought to take a second look and ask if the proposition indicates something real. Or is it a fictional invention in some fevered philosopher's dreams? Perhaps we are dealing with a pseudo-question, an artful use of language that appears to pose some deep problem but is really only disorienting us in a labyrinth of our own invention.[4]

These debates over the reality of various combinations of past, present and future show all indications of being debates over pseudo-questions. The problem is especially serious. The differences debated escape not just discrimination by observation, but by any factual difference accessible to science.

I am not the first to harbor such reservations. Mauro Dorato[5] has recently mounted a spirited assault on the issues debated in this literature. Among his many concerns is the lack of a contrast class to give meaning to the predicate "is real." The situation with temporal reality is unlike that of coffee, he notes. When we assert that the coffee is real, we are informing our listener that is it not a fake, ersatz coffee of burnt acorns. It is the real stuff. When a presentist asserts the unreality of past and future events, in just which way are they unreal or ersatz? It cannot merely be that they are not present. For that makes the presentist's view true by definition. The past would be unreal merely by virtue of not being present. To be asserting something more than a circularity, the presentist must provide some other sense in which future events are unreal. Yet none is supplied. Eternalists hold that all events, past, present and future are real. They simply take the other side the definition and deny that a failure to be present is sufficient to deprive an event of reality.[6]

This difficulty, in my view, captures what is wrong in this entire debate. What is at issue is how a word, "real," is to be used. Consider three events. The earth one year ago; the earth today; and the earth one year in the future. At each event, the earth will be passing through the same position in its orbit around the sun. A myriad of facts now follow. The speed of the earth is momentarily the same. The distance to the sun is momentarily the same. The sun will appear from the earth to be in the same place on the ecliptic; or, to use the older way of thinking, to be in the same house of the zodiac.

Presentists, eternalists and growing block possibilists will all agree on these facts and every other conceivable astronomical fact pertaining to the three events. Their agreement extends beyond what is observable. It includes all facts in any astronomical account of the solar system. They will disagree, however, just on one simple issue. How the label "real" should be applied. Presentists apply "real" to the present event only. Growing block possibilists will apply it to the past and present events; and eternalists to all three of past, present and future. That is all they disagree on. The whole debate reduces to a difference on how to assign a label.[7]

The perdurantist-endurantist debate has a similar character.[8] Perdurantists conceive of the earth a year ago, the earth now and the earth a year hence as three temporal parts of the one thing, the earth, that perdures through time. Endurantists, however, regard the earth as wholly present at each instant. The earth now is not merely the present temporal part of the earth. It is the totality of the earth, which is an entity that endures through time. Once again, they both agree on all the astronomical facts just mentioned. They disagree only on how the words "whole" and "part" are to be used. Endurantists attach the word "whole" to the earth now, whereas perdurantists attach the word "whole" only to the earth at all times taken together as a single four-dimensional structure. It is once again, a difference that makes no difference.[9]

The debate seems little different to me than the debate over Pluto's planetary status. It was known as a "planet" for the first three quarter century of our acquaintance with it. Then, in 2006, the *International Astronomical Union* declared it to be something less. It was not a planet, but merely a "dwarf planet." It was demoted since it failed to meet the third condition necessary for it to be a planet: it clears the neighborhood around its orbit. When Pluto was relabeled, there was an anguished response and a debate. There was a sense that something important had happened. However no new fact about Pluto had been discovered. The issue was merely how best to assign a label.[10]

Acknowledgments

I am grateful to Mauro Dorato for discussion and guidance in the literature; for further discussion to Tom Pashby and Bryan Roberts; and to Elie During whose paper occasioned this note.

[3] For an introduction to these notions, see Savitt (2008) and Hawley (2010).

[4] Another perennially recurring instance of this problem is the ever-popular question "What is time?" Its longevity is due precisely to its trivial unanswerability. See John D. Norton, "What is Time? Or, Just What do Philosophers of Science Do?" http://www.pitt.edu/~jdnorton/Goodies/What_is_time/index.html.

[5] Dorato (2006). For further discussion in a similar vein see Dolev (2006) and Savitt (2006).

[6] Once we would have taken it as automatic that simultaneous events are equally present and thus equally real. Then special relativity brought us the relativity of simultaneity so that we replaced the unconditional relation of absolute simultaneity with a relative simultaneous-for-you and simultaneous-for-me, where you and I need not agree. This is a mismatch that the present literature has sought exploit, but to poor effect. We should cut off the problem at the start. We should not identify the simultaneity relation of relativity theory with the relation of co-present reality. For a notion of reality that is observer dependent is no notion of reality I recognize.

[7] Is there a tension between the skepticism of this note and my urging elsewhere (Norton, 2010) that the passage of time is not an illusion? Am I not advocating a form of presentism or growing block possibilism in the latter? No. Norton (2010) takes no positive position on the nature of the passage of time, other than to affirm that, whatever it is, it is not illusory. Doctrines like presentism or possibilism do not provide a satisfactory explication of passage precisely because they fail to add anything to a common body of fact other than differences of labeling.

[8] See also Dorato (2012) for similar hesitations.

[9] Quantum theory makes matters worse. For example, Pashby (2013) asks how the four-dimensional structure that is a quantum particle in time can be divided into temporal parts. Under reasonable assumptions that he specifies, he shows that quantum theory provides no clear notion of a temporal part.

[10] Here is a rejoinder I expect: while there may be no ordinary factual matter at issue in the debate, the distinction does matter for this or that other debate in metaphysics. My response: if this other debate depends on the mere question of how we assign an honorific label "real," then perhaps the new debate is correspondingly defective. I am no more inclined to take seriously a castle built in the air when I am told that there is another high tower built on top of the castle.

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