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Change Through Time: Denial Is Not a Solution

Objects change over time. Consider for instance Max, a chameleon.¹ Not only that Max can move and thereby alter his posture (or shape), he can also adjust the color of his skin to that of his environment. But despite all the possible changes Max can undergo, he remains one and the same object—Max.

According to Leibniz's Law, identical objects share all their properties. Since we want to be able to say that Max is identical to himself—even after moving or changing his color² from green to brown—, it follows that Max has incompatible properties, i.e. he is *both* brown and green.

In metaphysics, this problem is referred to as the *problem of change*: how can it be that a single entity has two incompatible properties (different colors, different shapes etc.)?

Various solutions to this problem have been presented; one major point of divorce between them is the conception of time. In this essay, my main focus will be on presentism—the view that only the present is real. In the first section I will contrast how both eternalists (who, contrary to presentists, claim that past and future exist) and presentists account for the problem of change. Towards the end, it will become clear why some philosophers have been tempted to adopt a presentist account. In the second part of this paper, I will outline two major objections showing that—though coming handy at first sight—presentism is not a sensible position. For the denial of past and future may wipe away our initial problem of change; but it does so only at the cost of facing even more severe difficulties.

1 Existence through Time

A possible solution to the problem of change requires us to make sense of objects with incompatible properties (e.g., Max having different colors). The clue to the solution seems to be that an object has those different properties at different times, i.e. Max is green at

¹As used here, the term “object” is not restricted to non-living things.

²Note that, for the sake of a clear example, I am assuming that colors are absolute rather than vague. Changes in color are therefore regarded as clear cut rather than gradual.

time t_1 and brown at a different time t_2 . Formally, we can put this as

- (1) m is G at t_1 and m is B at t_2

which is, unlike

- (2) m is G and m is B,

very well possible, even if G and B are incompatible. The question that follows is how to account for an object having a certain property *at a given time* (e.g., t_1 or t_2). To approach this issue, an analysis of time is required. Two possible views shall be considered.

1.1 Past, Present & Future

The *eternalist* offers us a conception of time analogous to our ordinary conception of space. Time might be imagined as an additional dimension added to our spatial coordinate system thereby setting up a *space-time container*. In this container, everything is *absolutely located*—various objects span multiple times and can have different properties at different times.³ Future, present and past are all perfectly real. The way in which we refer to things, is similar to the way we refer to places. Both, “now” as well as “here” are purely linguistic phenomena; what they refer to depends on our present perspective, on our point of view.

The eternalist’s solution to the problem of change consists in postulating incompatible properties of objects to be positioned at different places in the space-time continuum.

An alternative conception of time is provided by *presentism*. According to this view, there is a fundamental difference between the present and such things as past and future. Prior puts the point clearly: “the present simply is the real” [?]. Everything else, on the contrary, is just some form of unreality. As soon as a present comes into existence the preceding present is extinguished, it goes out of existence. Thus, since there is nothing besides the present, there can neither be a past, nor a future—the only thing we ever have is one single time: the present. And hence, the present is co-extensive with reality.

³Note that the way an object is located in the space-time container crucially depends upon one’s account of objects’ persistence through time. Two dominant views need to be distinguished: *perdurantism*, according to which objects consist of temporal parts (or slices) having the properties of a part i at each time t_i ; and *endurantism*, according to which objects do not have temporal parts at all. They are wholly present at any time and their properties at each time t_i are relations between them and a certain part i of time. Without going deeper into the debate, note that both views share one fundamental feature: they are both compatible with the idea of a space-time container. In a way, both views consider *parts*—temporal parts or parts of time, respectively. However, the details shall not concern us here. For the present considerations it is sufficient to assume that, according to the eternalist picture, a single object and its properties at various times are distributed throughout different locations in the space-time container.

Since there is only a single time at a time, we do not even need to account for different properties at different times; they do simply not exist. The presentist's solution to the problem of change is to deny the grounds of our worries: the apparent contradiction between properties incompatible with one another (Max's being green and brown) vanishes with us abandoning past and future. Nothing literally changes because nothing exists long enough to undergo change. Everything is constantly extinguished and readily replaced with the next reality, everything flows.

1.2 The Merits of Being a Presentist

The attraction of the latter view is, some might argue, that it is ontologically sparse. Presentism does simply not require us to make sense of time—there is no need to postulate a temporal dimension in addition to spatial ones.

Furthermore, tensed predication is ultimate and unanalyzable. This means objects can have properties like *having been green*, *having had a different shape* or *becoming brown later* (tensed properties) where none of these properties are had by the object with respect to time. For example, if Max is now brown but has been green just before, Max currently has the properties of *presently being brown* and *having been green a moment ago*. He has both these properties *simpliciter*—viz. Max is just brown and has simply been green in the preceding moment. No reference to past or future times is required to ascribe Max these properties.

Moreover, there is no way for Max to have incompatible properties: because there is no part of time, no past, in which to locate Max's property of being green, it is impossible for the real, present Max, to have that property *now*. Presently, Max can only have the property of having been green; which is fundamentally different from and perfectly compatible with his property of presently being brown.

The eternalist, on the other hand, has to give an analysis for tensed predicates. As an example might serve the following:

- (3) m is presently G iff (if and only if) m is G at t_i and t_i is now
- (4) m was G iff there is some t_i such that m is G at t_i and t_i is earlier than now
- (5) m will be G iff there is some t_i such that m is G at t_i and t_i is later than now

Such an analysis of time comes along with future, present and past being related in a certain way (being earlier and later than etc.). The presentist denies this. For him only the present is real.

Some presentist try to ground their denial of future and past in the claim that times cannot be related. They argue that if times cannot be related, there cannot be times before and after a given time. If times are not before and after one another, so the argument continues, then they must coincide, which means that they are really all one time, i.e. the present (cf. [?]). Hence: only the present is real.⁴

Putting the arguments aside, it seems that presentism boils down to a simple denial—the denial of future and past. Therefore, presentists deny the need for an explanation of change; strictly speaking, they do not even have such a thing as change. Let us grant the presentist his pseudo-solution and continue to consider where his view takes us. As we will see, there are other reasons to reject his way of thinking.

2 No Time, No Problems?

We have just seen two crucially different views on how different properties occur at different times. While the eternalist holds that objects have different properties relative to different times, the presentist takes only the present to be real. Objects thus have properties only in the present, they do have them *simpliciter*, viz. without reference to time. Even tensed predication is not to be analyzed as referring to time; on the presentist's account it is irreducible.

I have not yet introduced any of the consequences that follow from these accounts. In the remainder, I will focus on the problems that result from the latter alternative—presentism. I will demonstrate that denying the existence of future and past yields an implausible theory. My claim in the end will be that presentism is, despite its *prima facie* simplicity, not a viable theory.

To get the flavor, note for example that on the presentist's view all the properties of an object are properties it has now. That means, in turn, that our chameleon Max becomes a relatively shadowy figure: he has, besides others, the properties of having had all the colors he has ever had. Furthermore, since all the properties an object has are

⁴We will see later on (in section ??) how this line of reasoning runs into problems.

irreducibly tensed properties, the presentist has no way to account for any properties an object has absolutely—such as *being a chameleon*. Max can only be ascribed the properties of presently being been a chameleon, having a chameleon yesterday, being a chameleon tomorrow, ...

These are quite apparent objections aiming at the complexity of presentists' objects; however, there are more fundamental objections. Two of which—truth-makers and relativity—we shall consider in turn.

2.1 Truth-Makers and Causes

How can claims about the past, like

(6) Max was green four hours ago.

be true? Traditionally, every true statement requires a truth-maker, a fact or state of affairs in reality in virtue of which the proposition under consideration is true. If it is true, for example, that Max is brown now, it is the case that Max is now brown. On the other hand, for (??) to be true, we have to appeal to the past (four hours ago) and find Max being green there. But how could we, given that no such thing as the past exists?

A possible reply might use Max's current property of *having been green four hours ago*. Although it might solve the problem in simple case like (??), tensed properties are not a universal solution. Consider a second example:

(7) If I had not been given the assignment for this paper on Friday, I would not be writing it right now.⁵

In this latter case, there is a causal relation between the assignment given to me on Friday and my writing this paper at the present. The past (Friday) and the present are thus causally related. But what purely present fact could make a statement like (??) true?

Due to the argument presented in section ??, times cannot be related on the presentist account. How then could there possibly be causal relations between them? Even if argued differently, proponents of presentism continue to face a problem here: If only the present is real, Friday does not exist. But how could there be a relation between two things (relata),

⁵The underlying assumption in this example is a counterfactual approach to causation. Assume, for the sake of the argument, that being assigned this paper on Friday was the one and only cause for my writing.

whereof one does not exist? The answer is this is impossible. If (at least) one of the relata does not exist, there cannot be a (causal) relation at all.

Either way, the crucial point is that the presentist's reply to the truth-maker problem cannot appeal to future or past. It thus cannot appeal to causal relations between past and present. Since the presentist denies the existence of the past, he has no way to account for causes lying in the past.

Even the appeal to causal traces left to the present by the past is useless. For the only way to bring causal traces about is there to be real causal relations. But then causal traces appear to posit real causal relations, which—for the reason just given—the presentist cannot have. It thus looks “as if the presentist is not entitled to assume the only mechanism [causal traces] that can explain, in terms of present fact, how statements about the past can be true” ([?], p.139), as Le Poidevin usefully remarks.

The above considerations clearly show why presentism cannot give an account of cause. Consequently, it faces a severe truth-maker problem, at least in non-trivial cases. Let us finally consider a second problem for presentism.

2.2 Relativity

Another familiar objection against presentism comes from relativity. It starts out by considering how one can determine whether or not any two events are *simultaneous*. According to relativity, two events cannot be *absolutely* simultaneous; they can only be simultaneous with respect to a certain *frame of reference*. This principle holds, of course, true for the present itself. For illustration consider the expression “to my left”. It always refers to the left side of the speaker. But depending on where she stands, “left” can mean any direction: west if she is looking north, east if she is looking south etc.. The present, like “to my left”, differs with the reference frame (in the left case: the position of the speaker) employed, i.e. the present depends on the perspective an observer takes.

Recall the presentist's claim that only the present exists, that it is *co-extensive* with reality. Hence, only those things and events exist that are presently occurring. Furthermore, the present time encompasses everything and only those things and events that are simultaneously now. It is one single, absolute thing.

Now, since the present varies—according to relativity—from observer to observer (from

reference frame to reference frame), the presentist is committed to the view that reality (since it is the present) varies from observer to observer. And hence, that there is no such thing as absolute reality, viz. no absolute present. This conclusion is inconsistent with presentism in so far, as presentists require there to be an absolute reality: the present.

The only way to circumvent the dilemma is for the presentist to give an alternative interpretation of relativity. But it is highly implausible that he will succeed in this endeavor. Especially, since we are unlikely to give up a conception of relativity that has proven to work well.

3 Upshot

We began our considerations with the problem of change. Opposing views on time offered two crucially different solutions for objects having incompatible properties. While the eternalist assumes that different properties correspond to different locations in a space-time container, the presentist denies the existence of time—only the present is real. It is constantly replaced by a new present; everything flows. Thus, there is no problem of change. Objects are never at risk of having incompatible properties. As we have seen in the last section, presentism faces—despite its appealing *prima facie* simplicity—severe objections. Especially its incompatibility with relativity should make us step back from this view.

References

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