

Time, Modality, and the Unbearable Lightness of Being

Introduction

A thorny trilemma between three commonsense beliefs looms large in recent literature about the metaphysics of time and modality. Commonsense suggests that what actually and presently exists is more real than what's wholly past (like Plato), wholly future (like the 2014 World Cup), or merely possible (like Plato's identical twin). Yet commonsense also suggests that something real must ground the truth of statements about what is past, future, and possible (like that it *was* the case that Plato *could have been* an astronaut). And yet commonsense suggests that present and actual things—as real as they are—are not up to the task of making such statements true. Plato is no more, and his being a astronaut never was nor ever will be. But then what that actually and presently exists could make this truth about Plato hold? The actual present could have been intrinsically exactly as it is even had Plato either never existed, or never possibly been a astronaut. Thus the trilemma.¹

Although an array of solutions have been proposed to this trilemma, the consensus is that at least one commonsense belief must go. Some claim that the non-present and non-actual is no less real than the present and actual, thus rejecting the first.² Others reject the second, either because they claim that truthmakers for statements about the non-present and non-actual needn't be real, or because they claim that some such statements don't require truthmakers at all.³ And still others reject

¹ For more discussion of the trilemma as applied to time, see Caplan and Sanford (2011).

² See Sider (2001) in defense of eternalism and Lewis (1986) in defense of possibilism.

³ We have in mind here contemporary Meinongians (e.g. Gallois 2004 on the non-present) and so-called "truthmaker non-maximalists" (e.g. Merricks 2007 on the non-present and non-actual).

the third commonsense belief, for they claim that such statements have actually, presently existing truthmakers after all.⁴

In what follows, we wish to discuss an unorthodox solution to this trilemma. The solution is unorthodox because it appeals to an ancient doctrine that has experienced a return to respectability in recent metaontology, and because it purports to dissolve the trilemma by showing that these commonsense beliefs are *compatible*. The doctrine we have in mind is *ontological pluralism*, the thesis that some things can exist in a different way than others. The view has an impressive pedigree, but fell into disrepute in the 20th century. The primary impetus behind its improved reputation are recent articles by McDaniel and Turner, who've shown how it can be informatively characterized with ideological resources that contemporary metaphysicians have grown comfortable with.⁵

One natural application of ontological pluralism, the one of interest in this paper, is to time and modality: for one might claim that what is non-present and non-actual in some sense exists *less than* what is present and actual. A version of this view has been defended by Quentin Smith, who has argued that “what exists in the maximal or perfect degree of existence is only what is present”, yet “[t]he past and future exist to some degree, but to a lesser degree than the present” (2002, p. 122). Similarly, McDaniel points to *possibilia* as a potential application for ontological pluralism.⁶ Such a

⁴ For a survey of the options available in this regard, see Caplan and Sanford (2011).

⁵ McDaniel (2009; 2010*a*; 2010*b*; forthcoming) and Turner (2010; forthcoming); see Caplan (2011) and Spencer (2012) for overview and critical appraisal.

⁶ “Let us distinguish between two versions of the most extreme kind of modal realism. Both versions agree that concrete possible worlds other than the actual one exist, but one version demotes the mode of being of non-actual concrete possible worlds to being-by-courtesy, whereas the other grants them full reality. The latter view holds that possible beings enjoy a ‘diminished’ kind of being” (McDaniel 2010*b*, pp. 642-643).

view is highly interesting, since it allows one to dissolve the trilemma without rejecting any of the three beliefs of commonsense that comprise it. Although real, non-present and non-actual things are *less real* than actual and present things—yet also *real enough* to ground truths that actual and present things cannot. The trilemma only *seems* to involve jointly incompatible beliefs because of the widely held assumption that the only way for one thing to be more real than another is for the latter thing to not be real *at all*.

Our goal in this paper is twofold. The first is to apply ontological pluralism in the manner suggested above. Although the application has been hinted at in the recent literature as a potential asset of ontological pluralism, it has rarely been precisely developed.⁷ The second goal is to show that despite its initial attractiveness, this application of ontological pluralism runs up against a challenge—which we call *the problem of mixed ontological status*—and conclude that a solution to this trilemma is better found elsewhere. We conclude with some lessons for the metaphysics of time and modality, and for metaontology.

1 PAPE-ism

The claim that truths about the non-present and the non-actual are made true by things with “less real way of being” (or kind of existence—we use these interchangeably) must be clarified among several dimensions if it is to be a viable solution to the truthmaking trilemma. What is it for an existing thing to *differ in its kind of being* from another? What is it for an existing thing to enjoy a *diminished* mode of being relative to that enjoyed by another? And how can an existing thing that enjoys a diminished mode of being *be able to ground truths at all*? Rather than map out the range of

⁷ One exception is Smith (2002); see section 2.

possible answers, in what follows we'll merely sketch out the claim in a way that strikes us as interesting, plausible, and that aligns with recent developments of ontological pluralism by McDaniel and Turner. We call the view *PAPE-ism* (presentism and actualism + pluralism about existence).

To formulate PAPE-ism, we'll use two pieces of conceptual machinery. They have been discussed at length by McDaniel and Turner, so we'll be brief. The first is the concept of a *semantically primitive restricted quantifier*. We help ourselves to a single unrestricted existential quantifier, \exists , ranging over absolutely everything there is, regardless of its way of existing. Say that \exists is a *restricted* quantifier if it is one that, in virtue of its meaning, includes in its domain some but not all of what there is, and that \exists is a *semantically primitive* restricted quantifier if in addition, \exists is not definable in terms of \exists plus expressions of other kinds.⁸ To illustrate, suppose one introduces a quantifier expression, \exists^P , with which one may then express truths about the past like

1: $(\exists^P x)(x \text{ is a dinosaur})$

Yet suppose that one defines \exists^P in terms of \exists and a 'Priorian' past tense operator P ("it was once the case that"), one that 'cancels' the ontological commitment of occurrences of \exists that occur within the scope of occurrences of \exists^P .⁹ For instance, one takes (1) to be mere abbreviation of

⁸ This is a broader conception than McDaniel uses, who says that the expressions must be *restricting predicates* (cf. McDaniel 2009, p. 303). As the example below shows, expressions from other grammatical categories (such as sentential operators) may constitute the restrictive material instead.

⁹ Prior (1967).

2: $P(\exists x)(x \text{ is a dinosaur})$

with P understood so that the truth of (2) doesn't require that there be any dinosaurs. This is not to take \exists^P as a semantically primitive restricted quantifier in our sense: \exists^P is neither semantically primitive (since \exists^P is defined in terms of \exists plus other expressions) nor restricted (since \exists^P doesn't range over a proper non-empty subset of what \exists ranges over).

The second piece of conceptual machinery we'll need are relations of *comparative naturalness* between semantically primitive restricted quantifiers. In recent work, Theodore Sider—no ontological pluralist—has argued that the notion of an expression that is more than, or just as 'natural' as, another expression (to use the now standard term due to Lewis), applies not only predicates (e.g., “ x is green” or “ x is grue”), but also extends to expressions from any grammatical category.¹⁰ McDaniel and Turner have independently developed versions of ontological pluralism by applying this notion of comparative naturalness to semantically primitive restricted quantifiers, and in developing PAPE-ism we'll follow suit.

The two pieces of machinery in tow, we can now characterize the core tenants of PAPE-ism. Letting \exists^{WAS} , \exists^{WILL} , and \exists^{\diamond} be quantifiers ranging over what is wholly past, wholly future, and merely possible (respectively) and \exists^{NOW} and $\exists^{\text{@}}$ be quantifiers ranging over what is present and actual (respectively), we formulate PAPE-ism thus

PAPE (1): \exists^{WAS} , \exists^{WILL} , and \exists^{\diamond} are semantically primitive restricted quantifier expressions that are at least as natural as \exists .

¹⁰ Cf. Lewis (1983; 1986) and Sider (2009; 2011).

PAPE (2): \exists^{NOW} is a semantically primitive restricted quantifier expression that is more natural than \exists^{WAS} and more natural than \exists^{WILL} , and $\exists^{\text{@}}$ is a semantically primitive restricted quantifier expression that is more natural than \exists^{\diamond} .

According to McDaniel (2010*a*, p. 632), it suffices for the truth of ontological pluralism that there be multiple semantically primitive restricted quantifiers that are at least as natural as \exists . This result is guaranteed by PAPE (1).¹¹ Moreover, PAPE (1) helps explain how things included in \exists^{WAS} , \exists^{WILL} , and \exists^{\diamond} , which according to PAPE (2) are relatively unnatural compared to other subdomains of what there is, can nonetheless serve as truthmakers for truths about the non-present and non-actual. If \exists^{WAS} , \exists^{WILL} , and \exists^{\diamond} are at least as natural as \exists , and it is granted that facts about the things included in \exists can ground truths, then it would be unclear at best why facts about the things included in \exists^{WAS} , \exists^{WILL} , and \exists^{\diamond} could not ground truths as well.

We take PAPE (1) and (2) to be core commitments of the PAPE-ist. However, we do not take them to be the *only* commitments of the PAPE-ist. Two will be important in what follows. First, the PAPE-ist claims that if \exists^{WAS} ranges over a talking donkey, then it *was* the case that there was once a

¹¹ However, elsewhere McDaniel and Turner instead characterize ontological pluralism as the thesis that there are multiple *perfectly natural* semantically primitive restricted quantifiers (cf. McDaniel 2009, p. 314; Turner 2010, p. 9). PAPE-ism is not a variant of ontological pluralism in *this* sense, but rather only a variant of ontological pluralism as we understand it in the main text. McDaniel (manuscript) has developed a view, *presentist existential pluralism*, that takes \exists^{WAS} , \exists^{WILL} , and \exists^{NOW} to all be perfectly natural, which is a variant on ontological pluralism in his sense, rather than as we understand it in the main text. Although we cannot give a full comparison here, we set this view aside because it does not appear to *ontologically privilege* the present in the manner that the PAPE-ist demands.

talking donkey. Yet the PAPE-ist does not say that this association holds as a matter of contingent fact, or that it could obtain at some times but not others. The PAPE-ist claims that this association holds always and necessarily. Applied to \exists^{WAS} , the principle is the following:

$$\tau^{\text{WAS}}: \quad \square \text{ALWAYS}((\exists^{\text{WAS}}_x)(\Phi x) \supset \text{WAS}(\exists x)(\Phi x))$$

(The PAPE-ist endorses similar principles for \exists^{WILL} and \exists^\diamond , but we'll only need the principle for \exists^{WAS} in what follows.)

The second commitment is this. As we understand the PAPE-ist, if there *was* once a talking donkey, albeit one included neither in \exists^{NOW} or \exists^{WILL} , then it follows that there *is* a talking donkey—to wit, one that is included in \exists^{WAS} . As with (τ^{WAS}) , the PAPE-ist does not merely claim that this principle holds as a matter of contingent fact, or that it could obtain at some times but not others. Rather, the PAPE-ist claims that this principle holds always and necessarily. Since we'll rely upon the principle as it applies to \exists^{WAS} and \exists^\diamond , we state them both more precisely below:

$$\sigma^{\text{WAS}}: \quad \square \text{ALWAYS}((\text{WAS}(\exists x)(\Phi x) \wedge \neg(\exists^{\text{NOW}}_y)(\exists^{\text{WILL}}_z)(\Phi y \vee \Phi z)) \supset \\ (\exists x)(\Phi x \wedge (\exists^{\text{WAS}}_y)(x = y)))$$

$$\sigma^\diamond: \quad \square \text{ALWAYS}((\diamond(\exists x)(\Phi x) \wedge \neg(\exists^\oplus y)(\Phi y)) \supset (\exists x)(\Phi x \wedge (\exists^\diamond y)(x = y)))$$

(As before, the PAPE-ist holds an analogous principle for \exists^{WILL} , although it will not play a role in the arguments to come.)

It is useful to compare the PAPE-ist with the standard eternalist (just as McDaniel compares a view similar in spirit of PAPE-ism to the standard possibilist in the quote from fn. 6). The PAPE-ist and the standard eternalist agree about what exists (they both think Plato is included in \exists , for instance) and agree about what this ontology is like (they both equally agree that Plato is a flesh-and-blood philosopher, standing in relationships to things across space and time), just as (τ^{WAS}) and (σ^{WAS}) state. And they agree that facts about what existed in the past and future make various statements about the past and future true. The PAPE-ist and the standard eternalist only disagree over whether \exists^{WAS} , \exists^{NOW} , and \exists^{WILL} express ways of existing that are at least as natural as \exists . Even were she to take all three to be semantically primitive restricted quantifiers, the standard eternalist takes facts about what \exists^{WAS} , \exists^{NOW} , and \exists^{WILL} include to be *non-objective* facts about the contents of \exists , albeit without representing them *as* the contents of \exists , but rather depicting how things are from the vantage of a particular limited temporal perspective. The standard eternalist would therefore take all three to do more poorly at ‘carving up the joints of nature’ than \exists , contrary to the PAPE-ist.

It is important to contrast PAPE-ism with other views in the vicinity. To begin with, it is clear that PAPE-ism differs from *Meinongian* and *ersatzist* solutions to the truthmaking dilemma: it differs from the former because anything that enjoys a way of existing also falls under \exists , and it differs from the latter because the non-present and non-actual are not merely represented as having the features that truths about the non-present and non-actual ascribe to them. The PAPE-ist also parts ways with *degree PAPE-ism*. For instance, the PAPE-ist need not endorse *degree presentism*, developed and defended by Quentin Smith, who argues that the degree of reality of a thing decreases the farther its temporal distance from the present.¹² A degree PAPE-ist is a kind of PAPE-ist, but not all

¹² Smith (2002).

PAPE-ists are degree PAPE-ists. For one can deny that *qualitative* comparisons between \exists^{WAS} and \exists^{NOW} entail *quantitative* comparisons between them—ways of existing need not come in ‘amounts’ even if some things exist more than other things—and one can deny that the things included in \exists^{WAS} are more or less real depending upon their temporal distance from things included in \exists^{NOW} .¹³

Although it takes some getting used to, PAPE-ism offers a coherent, distinctive solution to the truthmaking trilemma we began with. Nonetheless, we shall now identify a problem for the view that strike us as fatal, consider some responses, and conclude with some broader lessons.

2 The problem of mixed ontological status

Thus far we have focused on truths about things whose existence is *wholly past* or *wholly future*, and regarding things whose existence is *merely possible*. But what should the PAPE-ist say regarding things whose existence is *possibly past*—i.e., things that could have been among the contents of actual history, but in fact are not (like William Tell, the 1942 World Cup, or the birth of Plato’s identical twin)? If the PAPE-ist hopes to provide a comprehensive solution to the truthmaking trilemma with which we began, then truthmakers must be found for such truths.

However, the PAPE-ist’s core tenants entail that possibly past things *actually* existed in the past—an absurd result. Here is an informal sketch of the problem in three steps.

First step: Suppose it’s possible that there was a talking donkey included in neither \exists^{NOW} nor \exists^{WILL} . Recall that according (σ^{WAS}), if there was something with a certain feature included in neither \exists^{NOW} or \exists^{WILL} , then something with that feature is included in \exists^{WAS} . And moreover,

¹³ There are other disagreements between the PAPE-ist and Smith, but we cannot discuss them in detail here. For an argument that Smith’s degree presentism is “internally inconsistent”, see Oaklander (2009).

this principle—which associates facts about the past with the past way of existing—holds *always and necessarily*. It therefore follows by (σ^{WAS}) that it's possible that a talking donkey is included in \exists^{WAS} .

Second step: But this is a fact about what's possible. Recall that we have a principle that associates facts about what's possible with the possible way of existing, i.e. (σ^{\diamond}) . So, since it's possible that a talking donkey is included in \exists^{WAS} , and there are no talking donkeys included in $\exists^{\text{@}}$, it follows by (σ^{\diamond}) that included in \exists^{\diamond} is a talking donkey that is also included in \exists^{WAS} .

Third step: Now, if a talking donkey is included in both \exists^{\diamond} and \exists^{WAS} , then *a fortiori* a talking donkey is included in \exists^{WAS} . However, recall that we also have a principle that associates facts about what is included in \exists^{WAS} with facts about the past, i.e. (τ^{WAS}) . So, since a talking donkey is included in \exists^{WAS} , it follows by (τ^{WAS}) that there was a talking donkey.

But there never were any talking donkeys. Hence, PAPE-ism has consequences that conflict with the actual course of history, and therefore ought to be rejected.

More carefully, the reasoning above can be laid out as follows (where “ Φ ” can be substituted with “is a talking donkey”, or with any other formula satisfied by possibly past things):¹⁴

¹⁴ This includes formulas that contain occurrences of semantically primitive restricted quantifiers that express ways of being: for instance, “is a talking donkey and included in $\exists^{\text{@}}$ ”.

The problem of mixed ontological status with possibly past things:

1a:	$\Diamond(\text{WAS}(\exists x)(\Phi x) \wedge \neg(\exists^{\text{NOW}}y)(\exists^{\text{WILL}}z)(\Phi y \vee \Phi z))$	premise
2a:	$\Diamond(\exists x)(\Phi x \wedge (\exists^{\text{WAS}}y)(x = y))$	(1a), $(\sigma^{\text{WAS}})^{15}$
3a:	$\neg(\exists^{\text{NOW}}x)(\Phi x \wedge (\exists^{\text{WAS}}y)(x = y))$	premise
4a:	$(\exists^{\Diamond}x)(\Phi x \wedge (\exists^{\text{WAS}}y)(x = y))$	(2a), (3a), (σ^{\Diamond})
5a:	$(\exists x)(\Phi x \wedge (\exists^{\text{WAS}}y)(x = y))$	(4a), PAPE (1)
6a:	$\Phi a \wedge (\exists^{\text{WAS}}y)(a = y)$	premise for \exists -elim
7a:	$(\exists^{\text{WAS}}y)(a = y \wedge \Phi a)$	(6a), basic logic
8a:	$\text{WAS}(\exists y)(a = y \wedge \Phi a)$	(7a), (τ^{WAS})
9a:	$(\exists x)\text{WAS}(\exists y)(x = y \wedge \Phi x)$	(8a), \exists -intro
10a:	$(\exists x)\text{WAS}(\exists y)(x = y \wedge \Phi x)$	(6a) – (9a), \exists -elim
11a:	$(\exists x)\text{WAS}(\Phi x)$	(10a), basic logic

Since truths about what possibly existed in the past obviously do not entail truths about what existed in the past, the PAPE-ist is in trouble.

3 Mixed ways of existing?

How should the PAPE-ist respond to the problem of mixed ontological status? Perhaps the most natural reply is to weaken the principles discussed in section 1 that associate particular kinds of facts with particular ways of existing. (τ^{WAS}) , for instance, entails that if a talking donkey is included in \exists^{WAS} , then there was once a talking donkey, while (σ^{WAS}) entails the reverse (so long as no talking donkeys are included in \exists^{NOW} or \exists^{WILL}). The PAPE-ist may respond, however, that if it's possible that there was a talking donkey, it is not included in the *intersection* of \exists^{\Diamond} and \exists^{WAS} . Rather, the talking donkey is included in a *new* domain of quantification, associated with a new semantically primitive restricted quantifier: namely, $\exists^{\Diamond\text{WAS}}$. More generally, the PAPE-ist may claim that when “ $\Diamond\text{WAS}$ ”

¹⁵ To derive (2a) from (1a), we assume the following uncontroversial principle: if (i) $\Diamond p$ and (ii) $\Box\text{ALWAYS}(p \supset q)$, then $\Diamond q$.

facts concerned, the correct association principles are neither (τ^{WAS}) and (σ^{WAS}) , nor (τ^{\diamond}) and (σ^{\diamond}) , but rather $(\tau^{\diamond\text{WAS}})$ and $(\sigma^{\diamond\text{WAS}})$:

$$\tau^{\diamond\text{WAS}}: \quad \Box\text{ALWAYS}((\exists^{\diamond\text{WAS}}x)(\Phi x) \supset \diamond\text{WAS}(\exists x)(\Phi x))$$

$$\sigma^{\diamond\text{WAS}}: \quad \Box\text{ALWAYS}((\diamond\text{WAS}(\exists x)(\Phi x) \wedge \neg(\exists^{\text{NOW}}x)(\exists^{\text{WILL}}y)(\exists^{\text{@}}z)(\Phi x \vee \Phi y \vee \Phi z)) \supset (\exists x)(\Phi x \wedge (\exists^{\diamond\text{WAS}}y)(x = y)))$$

This blocks the problem of mixed ontological status for the PAPE-ist, since if a talking donkey is included in $\exists^{\diamond\text{WAS}}$, then one can only infer that there *possibly was* such a thing. One cannot conclude that it is included in \exists^{WAS} and therefore that there *was* such a thing.

The problem with this response is that it quickly leads to a huge proliferation of semantically primitive restricted quantifiers, which strikes us as a burdensome ideological cost to be avoided.¹⁶ Just as we can reason from there *possibly* being a talking donkey in \exists^{WAS} to there *being* a talking donkey in \exists^{WAS} and in \exists^{\diamond} , we can reason from there *possibly was* a talking donkey in, say, \exists^{NOW} to there *being* a talking donkey in \exists^{NOW} and in $\exists^{\diamond\text{WAS}}$. But since there is no talking donkey in \exists^{NOW} , the PAPE-ist must postulate yet another semantically primitive restricted quantifier: $\exists^{\diamond\text{WASNOW}}$. But now it should be clear that the problem arises yet again. For we can just as well reason from there *possibly was now* a talking donkey in, say, \exists^{WILL} to there *being* a talking donkey in \exists^{WILL} and in $\exists^{\diamond\text{WASNOW}}$. And so on as much as we please for all the true iterations. Perhaps the postulation of *some ways* of being is worth the cost of retaining all the commonsense beliefs with which we began. But to allow

¹⁶ Cf. Sider (2013, §1) in defense of the presumption in favor of ideological parsimonious metaphysical theories.

commonsense to force us to postulate an *infinite number* of them would be—to put it mildly—unreasonably excessive.

4 Conclusion

Although PAPE-ism is an exotic view about the metaphysics of time and modality, taking it seriously allows us to draw a couple of lessons that we conclude with here.

One lesson is *ontological*. Given that PAPE-ism suffers from the problem of mixed ontological status, and for that reason ought to be given up, the way to solve the truthmaking trilemma we began with is seems to be the orthodox way—deny one of the commonsense beliefs that generate it. That's not to say that the ontological pluralist cannot apply the view *either* to truths about the non-present, *or* to truths about the non-actual. Just not to *both*. But for the truths one does not apply ontological pluralism to, one must deny one of the commonsense beliefs regarding it all the same.

The other lesson we wish to draw is *metaontological*. Ontological pluralists who wish to show that their view is not only coherent but true should either focus its potential puzzle-solving power elsewhere, or instead develop this ancient doctrine in a radically different way than its most prominent recent defenders have understood the view.¹⁷

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