



Temporal ontology: tenselessness and quantification

Ernesto Graziani¹ · Francesco Orilia¹ 

Received: 12 September 2018 / Accepted: 9 May 2019 / Published online: 18 May 2019
© Springer Nature B.V. 2019

Abstract

Temporal ontology is concerned with the ontological status of the past, the present and the future, with presentism and eternalism as main contenders since the second half of the last century. In recent years several philosophers have argued that the presentism/eternalism dispute is not substantial. They have embraced, one may say, *deflationism (about temporal ontology)*. Denying or downplaying the meaningfulness of tenseless language and wielding the so-called triviality objection have been their main argumentative tools. Other philosophers have opposed this trend, thereby holding fast to what could be named *substantialism (about temporal ontology)*. Their leading defensive strategy has consisted in bringing to the fore tenselessness or unrestricted quantification in an attempt to resist the triviality objection. Despite this reaction, the past few years have hosted a new wave of deflationism, wherein the triviality objection and qualms about the legitimacy of tenselessness and unrestricted quantification still loom large. This paper counters this trend, by providing a new clarification of tenseless predication, unrestricted quantifiers and their role in rescuing substantialism from the triviality objection. A crucial ingredient is this: the appeal to unrestricted quantifiers and to tenseless predication are not alternative strategies, but rather two sides of the same coin, since substantialism requires quantifiers that are *both* tenseless and unrestricted.

Keywords Ontology · Metaontology · Time · Tense · Presentism · Eternalism

✉ Ernesto Graziani
ernesto.graziani@gmail.com
Francesco Orilia
orilia@unimc.it

¹ Department of Humanities, Philosophy and Human Sciences Section, University of Macerata, Via Garibaldi 20, 62100 Macerata, Italy

1 Introduction

A central topic in current philosophy of time is *temporal ontology* or—with reference to the main options in it—the *presentism/eternalism debate*. What is at stake is the ontological status of the past and the future: according to *presentism*, all that exists is present; according to *eternalism*, the past and the future exist just like the present, and thus in particular, in sheer contrast with presentism, there exist things that are not present.¹ Many philosophers in recent years have argued that this dispute is not substantial, or at least have manifested skepticism about its substantiality, thereby giving rise to a trend characterizable as *deflationism (about temporal ontology)*.² Others have reacted to it by defending, in different ways, the substantiality of temporal ontology, thus constituting a stance that we may call *substantialism (about temporal ontology)*.³ (Of course, we are using “substantialism” here in a sense that has nothing to do with the view that concrete temporal objects are enduring substances, or the view that times are independent entities.)

The main theme in the deflationist camp, the so-called *triviality* (or *skeptical challenge* or *objection*), is basically this: “exists” could either be *present-tensed* and mean *exists now* (or *presently*) or be *disjunctively tensed* and mean *has existed, exists now, or will exist*;⁴ and once the ambiguities are eliminated presentism and eternalism are either obviously true or trivially false.⁵ At the dawn of temporal ontology, it was taken for granted that the dispute was substantial and that both tenseless and tensed language were intelligible, although A-theorists favored a tensed language and B-

¹ As is well known, there are different kinds of eternalism and in particular one should at least distinguish between its A-theoretical and B-theoretical versions (see, e.g., Orilia 2014; see also Oaklander 2012 for a dissenting view on this distinction and the defense of a version of eternalism called *R-theory*). As we shall see, it will become important at some point to draw distinctions within the eternalist camp, but until then we may avoid such complications.

² Cf. Callender (2000), Dolev (2007), Dorato (2006), Lombard (1999), Meyer (2005), Savitt (2002, 2006), Williams (1996) (see Oaklander 2014, n. 2; Ingram and Tallant 2018, §3 for other references). It should be noted that many a time in the deflationist trend the official target is not temporal ontology in general but simply presentism, as accused of lacking a formulation that makes it a non-trivial thesis (see, e.g., Meyer 2005). However, attacks to presentism of this sort may be seen as deflationists, since, as we shall see below in discussing the so-called *triviality challenge*, an analogous accusation can be levelled in the same way against eternalism (and indeed against other positions in temporal ontology, such as the growing-block theory, which we shall not discuss for simplicity’s sake, since nothing crucial will depend on these details).

³ Cf. Hestevold and Carter (2002a, b), Merricks (2007), Oaklander (2008), Sider (2001, 2006), Stoneham (2009). (See Oaklander 2014, n. 2 for other references).

⁴ This reading has often been called *tenseless*, especially by some of those who argue against the substantiality of the debate. As we shall see in a moment, this term has also been used, more appropriately, in another way, and we shall follow this line.

⁵ Perhaps the earliest formulations in print of this problem, but only *qua* problem for presentism, are in Zimmerman (1998) and Lombard (1999). Later on, Meyer (2005) still sees it as affecting only presentism. Zimmerman, far from taking it as a pro-deflationist argument, quickly sets it aside, and Lombard is interested in that paper in other issues and does not quite press it in the deflationist’s direction. Meyer does, but since he insists only on presentism, he is, we may say, a semi-deflationist. Sider (2001, p. 15) hints at the triviality challenge as affecting both presentism and eternalism and as constituting, according to some (no reference offered), a pro-deflationist argument. He then tries to counter it. Sider (2006, n. 3) presents the triviality challenge and tells us that it is often discussed, although rarely in print. And then again tries to counter it. As far as we know, Dorato (2006) and Savitt (2006) are the two earliest printed presentations of the triviality challenge that view it as affecting both presentism and eternalism and as conclusively pro-deflationist.

theorists a tenseless one (see, e.g., Gale 1968, part II). Not so now: in launching their attacks, the deflationists seem to reject or downplay the legitimacy of tenseless language and thus put forward disjunctively (or conjunctively) tensed predication in lieu of tenseless predication. In reaction to this, there are two main themes that emerge in the substantialist camp. One is that the dispute requires that the quantifiers be understood as absolutely unrestricted, ranging over an all-encompassing domain, or at least as temporally unrestricted, ranging over all temporal entities and ruling out from their domain only abstract entities such as numbers or universals (Crisp 2004a; Sider 2001, 2006).⁶ The other theme is that the dispute requires that a tenseless predication or copula be appropriately brought to the fore, without confusing it with disjunctively tensed predication, so as to take “exists” as meaning *exists tenselessly* (or *simpliciter*) (Hestevold and Carter 2002a, b; Ludlow 2004; Oaklander 2008, 2014).

However, despite substantialists’ efforts, the efficacy of these ideas in vindicating the substantiality of the debate has not been fully appreciated. Indeed, the very intelligibility of a domain of (temporal) items over which (temporally) unrestricted quantifiers range and the intelligibility of tenseless predication have been questioned. There is in fact a new wave of deflationist works (Callender 2012, 2017; Deng 2018, Dolev 2018; Dorato 2018; Lombard 2010; Meyer 2013a, b), which have either ignored the above mentioned anti-deflationists attempts or have explicitly argued against the intelligibility or efficacy of their appeal to (temporally) unrestricted quantifiers and tenseless predication.⁷ In particular, Lombard (2010) and Meyer (2013a, b) have done this in presenting the triviality challenge as a most telling pro-deflationist argument.⁸ It should be noted here that some substantialists have reiterated a reply to the triviality challenge that appeals to either tenselessness (Baron and Miller 2013; Mozerky 2011, 2015; Oaklander 2012, 2014; Torrenco 2012) or unrestricted quantification (Deasy 2017a; Sider 2011), without responding to the issues raised by Lombard and Meyer.⁹ We thus think that a reply to this new wave, which provides an additional clarification of tenseless predication, unrestricted quantifiers and their role in vindicating substantialism, is in order. To support the intelligibility of tenseless predication is most crucial, because, as we shall see, without it we cannot even state eternalism of the B-theoretical variety, and we end up endorsing a tensed ontology, which undermines the debate at its very outset. But it is also important to emphasize that the appeal to unrestricted quantifiers with a corresponding domain, and the recourse to tenseless

⁶ Emphasis on unrestricted quantification in defining presentism is often found even in authors who do not consider the triviality challenge; see, e.g., Markosian (2004).

⁷ In talking about unrestricted quantifiers, we shall usually skip from now on the parenthetical “temporally,” taking it as contextually implicit.

⁸ Meyer in these new publications again presents the triviality challenge as a problem for presentism only.

⁹ There are also recent responses to Lombard and Meyer, but they focus on the triviality objection as a problem for presentism only (Tallant 2014; Deasy 2017b). In contrast, we think that a more general reply that considers both presentism and eternalism is appropriate. Apart from this, the approach we follow is different. This is especially true with respect to Tallant (2014), who argues for his own way of defining presentism. The line taken by Deasy (2017b) is more similar to ours. In particular, Deasy, like us (though in different ways), defends the intelligibility of tenselessness and admits that quantifiers may be used tenselessly. Contrary to Deasy, however, we emphasize, as we shall see, the fact that quantifiers are *predicated*, which raises the issue of whether their predication is tensed or tenseless. Moreover, we support with different arguments the claim that the presentist theses (P2) and (P3) (see below) are not trivially false.

predication, are not alternative strategies, but rather two sides of the same coin, since the substantiality of the debate crucially hinges on admitting quantifiers that are *both* tenseless *and* unrestricted.¹⁰ Thus, as we shall see, our clarification will insist on these points. Since, as noted above, the use of a tenseless language is typically associated to B-eternalism, it is important to point out that in defending the legitimacy of tenseless predication we do not mean to side with that doctrine, nor for that matter with any other view in temporal ontology. We merely wish to defend the substantiality of the debate, which, in our opinion, depends on the use of tenselessness (as well as tensedness).

We shall first review how Lombard (2010) puts forward the triviality challenge in spite of earlier substantialist moves that advertize unrestricted quantification and tenselessness. We have chosen to concentrate on Lombard's paper, rather than on Meyer (2013b), because the former focuses on both presentism and eternalism, whereas the latter, while basically providing the same argument, considers only presentism; however in due time we shall also refer to Meyer (2013b) in order to address important points that emerge from it.¹¹ We shall then consider the other recent deflationists attacks. We shall rejoiner by a further elucidation of tenseless predication and unrestricted quantification, which will include a reply to some specific points raised in this new wave of deflationism, by Dolev in particular. We shall then go back to the triviality challenge in the hope that it can be finally put to rest, by properly underlining the role of tenselessness and in particular how it is involved in the unrestricted quantifiers.

2 Lombard's presentation of the triviality challenge

Lombard (2010) focuses on a "typical statement of presentism" and a "central claim of eternalism," namely:

- (P) Everything that exists exists now;
- (E) There are things that do not exist now.¹²

¹⁰ As we shall see, even in the substantialist camp, the role of tenselessness in the appeal to unrestricted quantifiers failed (Crisp 2004a, b) and still fails (Deasy 2017a) to be acknowledged. Mozersky (2011, §1; 2015, §3.2) acknowledges that unrestricted quantification and tenselessness must go together, but fails to explicitly clarify (*contra* Lombard and Meyer) how the triviality challenge is blocked once these resources are employed.

¹¹ It may be worth noting that Lombard (2010) presents the triviality challenge pretty much as in Savitt (2006), but adds an additional twist to it by implicitly bringing into the picture Williamson's ex-concrete objects, as we shall see in Sect. 5. Presumably, Lombard formulated the challenge independently from Savitt, since the former's paper originates from a talk delivered in 2005 (see Campbell et al. 2010, p. vii). In any case, Lombard's paper is a fit target for us since it was published after the above mentioned replies to the triviality challenge. Let us also note that we shall neglect Meyer (2013a), since nothing relevant for present purposes is contained there without also being contained in Meyer (2013b).

¹² It is typically assumed that presentism is, if true, always true and accordingly presentism is more precisely the thesis that always, everything that exists exists now. A referee pointed out that this may be taken to imply "by standard tense-logical reasoning" that, e.g., Aristotle exists now. Presumably, the idea here is that prefixing "always" to a universally quantified sentence allows one to instantiate from the universal quantifier to any individual, whether past, present or future and thus in particular to a past individual such as Aristotle. There is however no reason to assume this. We may grant that *always, S* implies *S*, where *S* is any sentence, possibly a universally quantified sentence such as "everything that exists exists now." But then whether the universal quantifier can be instantiated in that way is far from obvious; we shall discuss

The use of “now” in (P) and (E) signals a present-tensed predication. We shall follow Lombard in using “now” in this way, but we shall also use “presently” with the same aim. The first occurrence of “exists” in (P) and the “are” of (E) are grammatically present-tensed. This may suggest that these verbs involve present-tensed predications. If so, Lombard tells us, (P) and (E) are to be interpreted as follows:

- (P1) Everything that exists now exists now;
 (E1) There now are things that do not exist now.

But clearly (P1) is trivially true since it is a tautology and (E1) is trivially false since it is a contradiction in terms (we are assuming that “there are” and “there exist” are equivalent).

In an effort to avoid this result, the first occurrence of “exists” in (P) and the “are” of (E) must be interpreted in different ways. Lombard first proceeds by assuming that some have called *serious tensism* (see, e.g., Crisp 2004a), i.e., the thesis that there is only tensed predication, and thus notes that alternative interpretations can only be obtained by reading these verbs as disjunctively tensed, or, in Lombard’s terminology, as “disjunctively omnitemporal.” Here they are:

- (P2) Everything that existed, exists now or will exist exists now;¹³
 (E2) There were, are now, or will be things that do not now exist.

But these interpretations, Lombard goes on, do not rescue presentism and eternalism from triviality, since we can appeal to an obvious truth, such as

- (A) Aristotle existed, but does not now exist,

to claim that (P2) is *obviously* false and (E2) is *obviously* true.¹⁴

Lombard then turns to the option of resorting to tenseless predication and thus puts forward the following reading of (P):

- (P3) Everything that exists tenselessly exists now.¹⁵

By the same token, he could have considered this interpretation of (E):

- (E3) There tenselessly are things that do not now exist.

Lombard argues that (P3) collapses into (P2), because either “tenselessly exists” is unintelligible, or it is equivalent to “existed, exists now or will exist,” inasmuch as the latter tells us what the former really means.¹⁶ Similarly, he would probably agree that

Footnote 12 continued

this in detail in Sects. 4 and 5. Nothing crucial however hinges on this: the definition *cum* “always” may be taken to imply (P), which is where the action lies.

¹³ Actually Lombard forgets an occurrence of “now” and simply writes “[e]verything that existed, exists or will exist exists now,” but (P2) is clearly what he means. He also considers a most implausible “conjunctively omnitemporal” reading, which we can neglect for present purposes (in the terminology of Sect. 5 we would call it “conjunctively tensed”).

¹⁴ It is not explicitly stated that it is (A) that should convince us that (E2) is not only true but also obviously true. However, it seems clear from the context.

¹⁵ Lombard refers to Hestevold and Carter (2002a, b) as supporters of this approach. Note however that Hestevold and Carter use “simpliciter” instead of “tenselessly.”

¹⁶ This equivalence is typically accepted among deflationists (see, e.g., Dorato 2006; Meyer 2013b). As we shall see in Sect. 5, we resist the triviality objection without questioning this equivalence.

(E3) collapses into (E2). We find the same maneuver, even before Lombard's paper, in the substantialist camp: Crisp (2004a, b) has also considered (P2) and (P3) as possible readings of (P) and also claimed that (P3) collapses into (P2). Presumably, we could add, he would similarly view (E3) as collapsing into (E2).¹⁷

Clearly, the proposal of these collapses still appears to presuppose serious tensism, for it is based on the idea of reducing tenselessness to disjunctive tensedness. However, to take for granted serious tensism is problematic, because B-eternalists typically consider the use of a tenseless language as essential to state their *ontological* position. In their view, tensed claims do not commit to an essentially tensed reality inasmuch as they can be understood in a tenseless way, as we shall recall in more detail in Sect. 4 (Oaklander 2008, p. 5).¹⁸ Thus, B-eternalists accept (E3) and not (E2). Moreover, even though, as eternalists, they reject (P3), they certainly recognize its meaningfulness *qua* thesis that stands in opposition to (E3), and not as a thesis that reduces to (P2). Thus, we need to avoid serious tensism and grant the legitimacy of tenseless predication in order to contemplate the opposition between (P3) and (E3). Now, it can be retorted here that this way of opposing the collapses in question presupposes the intelligibility of the tenseless language advocated by the B-eternalists, and for the deflationist this very intelligibility is problematic. Of course, if we simply took for granted the intelligibility of tenseless predication we would beg the question against the deflationist. However, in a final appendix we shall argue in favor of such intelligibility.

Among substantialists, there are, to be sure, those who explicitly advocate the use of tenseless predication in order to propose (P3) and (E3) as presentist and eternalist statements that can stand the trivality challenge. In addition to the above mentioned Oaklander (2008), two notable examples are Mozersky (2011) and Torrenco (2012). Unfortunately, we do not find in them a clear explanation of why, once tenseless predication is taken into account, the trivality challenge evaporates. This explanation is forthcoming, we think, only if the role of the quantifiers in the presentist and eternalist claims is properly appreciated (see Sect. 5 below). And here we come to another reason why serious tensism is troublesome. How should we understand the quantifiers in the presentist and eternalist claims? Crisp (2004a) argued that (P2) is not trivially false, by appealing to the idea that it involves a quantifier, "everything," which is "unrestricted" and ranging over "our most inclusive domain of quantification," or at least a quantifier restricted in such a way as to range over "the class of all things in time, which existed, exist now, or will exist" (Crisp 2004a, p. 18).¹⁹ He reasons that it is not obvious that the domain in question includes Aristotle;²⁰ the presentist says it does not and the eternalist says it does, but it is not obvious who is right. However, in saying that (A) is trivially true and in conflict with (P2), we are presupposing the eternalist's answer. We could add something similar about (E2). Lombard neglects Crisp's paper and this is unfortunate, because Crisp is basically on the right track. But not completely though, because he fails to clarify whether this quantificational talk is tensed or tenseless.

¹⁷ Crisp does not consider (E2) and (E3), since he is only concerned with how to formulate presentism.

¹⁸ Oaklander makes basically this point in arguing against the version of the trivality challenge put forward in Dorato (2006), and also cites Lombard (2010).

¹⁹ In Crisp's formulation we find "for every x " instead of "everything."

²⁰ We stick to Lombard's example. Crisp considers the Roman Empire.

This lack of explicitness may mean that he takes quantifiers to be neither tensed, nor tenseless.²¹ Be this as it may, the line that quantifiers are neither tensed nor tenseless has been explicitly taken some years later by Deasy (2017a), who cites Crisp, and claims that they are such, because they “are not verbs” (p. 381).²² This line should not be welcome though, because, as we shall see in the following, the use of quantifiers involves predication, and, once we grant this, the predication in question could be taken to be either tensed or tenseless. Given serious tensism, this predication must be tensed (in the terminology of Ludlow (2004), this choice leads to what he calls *very serious tensim*). The price for this, as we shall argue in Sect. 5, is that one ends up being committed to a specific, tensed, temporal ontology, thereby begging the question against rival approaches. This of course makes the debate insubstantial in a trivial way.

Thus, substantialism requires tenseless predication and a most inclusive domain of quantification, which go hand in hand. If tenseless predication is assumed, there should be no deflationist worry. Yet, these notions keep being ignored or criticized, as we shall ascertain in the next section. And thus deflationist worries remain.

3 Recent attacks to tenseless predication and unrestricted quantifiers

According to Callender (2012, p. 74), “there is a very real threat that the answer to this question [whether the dispute in temporal ontology is substantial] is no” and, without considering any attempts by substantialists to support their position, except Sider (2006), he concludes that “the jury on triviality is still out” (p. 81). You may say that some substantialist efforts, such as those by Torrenco and Mozersky, were too recent for Callender to take notice of them in that paper. But we find basically the same verdict in Callender’s recent book (2017), where it is stated that the competitors in temporal ontology might be “notational variants” (2017, p. 294). To back up this claim, Callender refers to Callender (2000), Meyer (2013a), Savitt (2006) and Dorato (2006), and neglects the above mentioned attempts by Crisp, Oaklander, Torrenco, Mozersky, etc., to rescue substantialism by appealing to tenseless predication and unrestricted quantification. Similarly, Dorato (2018) maintains that temporal ontology may not be substantial, citing Savitt (2006), Dolev (2007) and Deng (2018) in support of this claim, and ignoring substantialist rejoinders in between Savitt’s and Dolev’s works and the recent paper by Deng.

Deng (2018, §3) tells us that the triviality challenge shows that, for the dispute to be substantive, “exists” must mean something other than “exists now” or “existed, exists now or will exist” and then she urges that “[t]he near consensus is that what it means is ‘tenseless existence’ or else existence simpliciter, i.e., existence full stop.” She then makes it clear, by referring to Mozersky (2011), that she understands tenseless existence in terms of an unrestricted existential quantifier: “Standard presentism, then, is the view that only things that are present exist, full stop. Even when the quantifier’s wings are stretched as wide as they can be, no non-present things (that are still temporal

²¹ Pressed by Ludlow (2004), Crisp (2004b) considers the issue of distinguishing between tenseless and tensed quantifiers, but not in a way that clearly distinguishes between *predicating* the quantifiers either tenselessly or tensedly, as we shall see in Sect. 5.

²² Ingram and Tallant (2018, §3.2) refer to Deasy (2017a), seemingly with approval.

things) are caught by it (I take the metaphor from Mozersky 2011, p. 124).”²³ She then claims that this tenseless existence “stands in need of elucidation” (p. 4)²⁴ and goes on to examine three attempts to explain why the presentism/eternalism debate is substantial. She concludes that they offer no such elucidation. She considers Sider (2011), Stoneham (2009) and Wüthrich (2013). Sider indeed appeals to a tenseless existential quantifier and tells us that it allows us to say that presentists and eternalists disagree on whether or not, e.g., there tenselessly are dinosaurs, but in the end she does not fully grasp how this disagreement is to be understood in spite of Sider’s attempts. And as regards Stoneham and Wüthrich, she finds no help in them because they do not really try to elucidate tenseless existence; they rather try to avoid tenselessness, but then end up presupposing it.²⁵

Dolev (2018) goes beyond merely claiming that tenseless existence is still in need of elucidation. He actually tries to argue that tenseless existence and more generally tenselessness are inescapably unintelligible.²⁶ Let us see how. According to Dolev, the presentist and eternalist claims are unintelligible, since they are entangled in a circle: they presuppose the intelligibility of tenseless existence, which in turn requires the intelligibility of the claims themselves. This line against tenseless existence permeates Dolev’s earlier work (2007), but it is stated most pointedly in Dolev (2018, p. 6). This paper is a reply to Orilia (2014), who argued that Dolev (2007), in contrast to his efforts to supersede temporal ontology, implicitly commits himself to eternalism. According to Dolev (2007, ch. 5), what is present depends on the context: it could be the winning arrival of an athlete or a single basketball match in the Olympic games, but also the whole Olympic games or even a much longer long-lasting cosmic event. But then, Orilia has argued, the “ontological inventory,” i.e., the set of everything that exists, includes the events that are typically acknowledged by the eternalist, e.g., the first winning arrival in the first day of the games, and then the second winning arrival, etc.

In his reply, Dolev urged that Orilia begs the question, because the Quinean notion of ontological inventory on which he relies presupposes a tenseless predication of exis-

²³ The metaphor traces back to Markosian (2004), cited by Mozersky (2011). It seems then that, according to Deng, (P) had better be interpreted as (P3). Presumably, she would then also admit that, analogously, (E) should be interpreted as (E3).

²⁴ More precisely she says “this statement stands in need of elucidation,” meaning by “this statement” standard presentism. But it is clear from the context that the culprit in her opinion is tenseless existence.

²⁵ In Deng’s reconstruction, Wüthrich attributes to the presentists the view that only some of the existing events physically exist (Deng 2018, §3) and then argues that presentism is at odds with modern physics, in particular relativity theory. But here tenseless existence seems to be taken for granted rather than elucidated and the presentist’s talk of present existence is traded for physical existence so as to pave the road for the appeal to modern physics in order to chastise presentism. Deng is indeed right in being disappointed. Stoneham, on the other hand, also belongs to the group of those who find tenseless predication unintelligible. In order to save the substantiality of temporal ontology, he thus appeals to truthmaking and claims that presentism and eternalism make different substantial claims about truthmaking. However, Deng (2018, §4) notes that Stoneham’s strategy works only if tenseless predication is appealed to in such claims, and Stoneham himself, like Deng, does not take this notion to be intelligible and thus available. Again then Deng is right in being disappointed.

²⁶ We classify Dolev here as a deflationist, since he shares the general deflationist theme of demoting the significance of the contrapositions in temporal ontology. It should be noted however that Dolev, contrary to what is typically done by the deflationists, does not appeal to the triviality challenge, and has a peculiar post-ontological or phenomenological perspective on the nature of time, which is meant to be neither eternalist nor presentist (Dolev 2007).

tence and thus the intelligibility of a tenseless language, which Dolev rejects (2018, §3).²⁷ According to Dolev, tenseless language is no part of ordinary language and, therefore, is not something that we already understand on the basis of our ordinary linguistic competence. Consequently, the meaning of a tenseless predication of existence must be explained in some way, and, as just noted, this cannot be done, if not circularly, by appealing to the ontological inventory. Dolev considers the idea that tenseless predication of existence be introduced as a primitive in the technical jargon of philosophy. After all, he admits, primitive terms are introduced in scientific theorizing, and one could then think that an analogous move can be done in philosophy. But Dolev rejects this option, for the following reasons. Novel scientific terms draw their meaning from the roles they play within scientific theories in which they occur, and these theories are in turn supported experimentally. Contrariwise, in philosophy, or at least in temporal ontology, there is no experimental support and thus things are different: “Here too the new terms rely on the theory they figure in for their meanings, but the theory’s content is derived from the meaning the terms already have.” There is, therefore, again, a problem of circularity. And the case of tenseless predication of existence is no exception: “Say that, like me, you do not understand the tenseless use of ‘Exist’. Could acquainting myself with eternalism help? Not if to understand this theory I already need to understand tenseless ‘Existence’.” (Dolev 2018, §3)

Dolev (2018, §3) provides a further argument for taking the (tenseless) existence attributions of temporal ontology to be unintelligible: the intelligibility of such attributions presupposes a Quinean, univocal and context- or domain-independent notion of existence, on the basis of which one can speak of an ontological inventory that comprises all that exists; and yet this notion of existence is not available, since an existence attribution such as “X exists” is not meaningful unless a context or domain is specified.²⁸ Here Dolev relies on Scanlon’s (2014) notion of “domain” (Dolev seems to use at this juncture “context” as equivalent to “domain”). A domain is for Scanlon a realm or sector of our understanding of reality, e.g., mathematics, set theory, science, practical reasoning, etc. Domains (which may overlap with each other) are characterized and distinguished by (1) the concepts they involve, e.g., number, set, physical object, morally right action, etc., (2) the sort of claims they involve, including existential statements, and (3) the standards for making these claims (see Scanlon 2014, pp. 19–20). Dolev invokes the fact that meaning is always determined, at least partially, by use, and then argues that, in ordinary as well as in scientific language, the distinctness of the domains “is mirrored by a plurality of uses and thus of meanings

²⁷ According to Dolev, “[o]ne could resort to the ‘ontological inventory’ and say that containment in it is the paradigm of tenseless existence. But then reference to the items of the ‘ontological inventory’ already makes use of a tenseless language. So tenseless language presupposes the inventory, which in turn can only be described by means of a tenseless language.”

²⁸ At this juncture, Dolev makes two points in order to back up his argument. One, that there is no “sense of ‘existing simpliciter’, as it is sometimes phrased, say some disjunctive notion that comprises all senses of ‘exist’ and with respect to which it can always be asked of any X whether it exists or not.” Second, that “[t]he eternalist/presentist debate is conducted on the assumption that no context is required for asking about some X whether it exists,…” (the quotation continues with a repetition of the previous complaint that the notion of ontological inventory cannot be taken for granted.) These two points appear to us rather different, even though, in introducing the second one, Dolev presents it as “another way of putting it [the first point].”

of ‘exist’, and that no domain-independent meaning of ‘exist’, no ‘common denominator’ that is shared by the plurality of uses of this word and ties them to each other, can be distilled from the many domain dependent uses of it” (Dolev 2018, §3).²⁹

In sum, according to these new trends, tenseless predication, tenseless existence and unrestricted quantifiers with a corresponding all-encompassing domain are in bad shape. In the next section, we shall argue that there is no reason to be so pessimistic about them. We shall first defend tenseless predication and then turn to quantification and existence. Since quantification involves predication, it will be crucial to rely on the previous vindication of tenseless predication in order to grant that the unrestricted quantifiers invoked by the substantialists can be predicated tenselessly, and in order to make sense of tenseless existence.

4 General clarification of tenseless predication and tenseless existence

It seems then that deflationists do not doubt that we understand tensed predication; they admit that it is part of natural language and that we commonly use it. In contrast, they, or at least some of them, do not find tenseless predication in natural language and claim they do not understand the attempts by philosophers to introduce it. It is not so obvious, however, that natural language contains no tenseless predication. At the very least one should say that it is an empirical issue whether it does or does not, and that there is no clear verdict against the first horn of the dilemma. We shall briefly consider this issue in the appendix. But even if we assume that tenseless predication is extraneous to everyday English and only belongs to the technical language of philosophy, it does not follow that it cannot be understood.

Dolev urges that we cannot understand it, because in order to grasp it we must first grasp eternalism and in order to grasp eternalism we should first grasp tenselessness, so that we are trapped in a circle that precludes understanding. Here one may grant that in providing a definition one should avoid circularity and also admit that one cannot resort to the very theses of eternalism or presentism to *define* without circularity the tenseless reading of “exist.” Nevertheless, it is still possible that there is here, in the absence of a definition, a circle that favors, rather than precludes, understanding. For it may well happen that understanding the crucial issues of temporal ontology and understanding tenseless predication proceed *pari passu*: one could come to grasp tenseless predication by virtue of contemplating the contrast between the theses that

²⁹ When Dolev speaks of different meanings of “exist,” it is not clear to us whether they are taken to be irreducible *modes of existence*, i.e., whether Dolev is endorsing some form of ontological pluralism (see Spencer 2012). Note also that Dolev speaks of an “irreducible plurality of things,” rather than of a distinction of domains, but we take it that this is in essence what he means, since he seems to talk about an irreducible plurality of things in order to motivate Scanlon’s distinction of domains. This irreducible plurality of things is brought to the fore first by citing Putnam (1987, p. 16) telling us that there are tables, chairs, ice cubes, electrons, space–time regions, prime numbers, people who are a menace to world peace, moments of beauty and of transcendence, etc., and then by informing us that “much has been written on how impossible it is to accommodate this irreducible plurality of things under a Quinean univocal notion of existence.” (Putnam 2013 is also cited.).

presuppose it, in particular presentism and eternalism.³⁰ If one insisted that nothing like this could be true, because the introduction of tenseless predication in the technical jargon of philosophy is not experimentally supported, it could be retorted that this argumentative line leads to an implausible overgeneralization, since it suggests that all meaningful language is either ordinary language or is subject to some sort of verificationist criterion of meaning. If this were correct, it would be impossible to introduce new primitive terms not only in philosophy, but in all areas of inquiries where theories are not experimentally supported; in particular logic and mathematics, but perhaps also highly theoretical parts of human sciences such as political science and sociology.³¹ Going back to philosophy and in particular to our specific concern here, namely tenselessness, the following could be added. Tenseless predication is presupposed by an atemporalistic conception of abstract entities or God. Some philosophers believe that abstract entities, e.g., numbers and sets, or God, are timeless or atemporal, i.e., they exist and have properties, but not in time. One may think this is irrelevant precisely because these entities are not *temporal* entities. But the point is that, since they are not temporal, it is wrong to say that they presently exist or presently have their properties; they exist or have their properties tenselessly. Thus, those who reject the intelligibility of tenseless predication must also reject the intelligibility of viewing abstract entities and God as timeless (and endorse, if they admit the existence of such entities, an omnitemporalistic conception of them).

Be this as it may, tenseless predication can be explained non-circularly, without relying on a previous understanding of the notion of ontological inventory or of the metaphysical thesis of eternalism (or timeless entities, for that matter), if one grants, as deflationists do, that tensed predication is understood as part of ordinary language: even if there is no tenseless predication in ordinary English, we can obtain it by *abstracting* from tense in tensed predication, i.e., we may say, by *detensing*. More specifically, tenseless predication can be understood as the result of detensing present-tensed predication. Thus, tenseless predication is what we are left with, if we strip present-tensed predication of its tense. Since of course there is predication when a predicate is predicated, we can put matters more concretely in terms of predicates: a tenseless predicate is a predicate that results from a present-tensed predicate by depriving it of tense. Detractors of tenselessness such as Deng and Dolev might reply that they do not understand how it is possible to deprive a present-tensed predicate of tense or that they fail to grasp what would remain after this deprivation. However, this does not seem right: we surely have a grasp of present-tensed predication; we also understand what tense is, i.e., what we are abstracting from; hence, there shouldn't be a problem in understanding what detensing present-tensed predication consists in, and what its results is, i.e., tenseless predication. If one is still unconvinced, a comparison with placelessness may aid understanding.³² It may be objected that to resort to this is a conceptual error, because time and space should not be confused. However, we are proposing no such error but only an *analogy*: even if ordinary English predication

³⁰ We may want to distinguish here, as in Oaklander (2014), the pre-theoretical level of common sense and the theoretical level of ontology.

³¹ Thanks to an anonymous referee for pointing this out.

³² This option is considered and rejected by Lombard (2010).

is thoroughly tensed, it can hardly be denied that placelessness is a very common *analogue* of tenselessness. Tenselessness is a kind of lack of semantic information regarding the instantiation of the property expressed by a predicate; the missing information is of course temporal. Now, typically, ordinary (tensed) predication fails to express spatial information about the instantiation. When we say that a certain animal is a dog, the predicate “is a dog” does not convey any spatial information about the instantiation of being a dog. Of course, the instantiation is somewhere, but the predicate gives us no indication about it. In a similar way, if “is a dog” is understood as tenseless, it does not convey any temporal information about the instantiation of being a dog; the instantiation is “somewhen,” we may say, but the predicate does not specify it. We could say that using tenseless predication to talk about temporal entities is to a certain extent analogous to using the ordinary “placeless” predication to talk about spatial entities.³³

Let us now turn to quantification. As noted, Crisp (2004b) and, more explicitly, Deasy (2017a), deny that tensedness or tenselessness apply to quantifiers. Let us see how Deasy (2017a, p. 381) motivates this view:

Why think the quantifiers have ‘tensed’ or ‘tenseless’ interpretations in the first place? According to Rini and Cresswell (2012, 65), the idea that the quantifiers are either ‘tensed’ or ‘tenseless’ is plausibly based on the idea that the quantifiers are verbs, so that (for example) expressions of the form ‘ $\exists x\alpha$ ’ must be read as either ‘there *is now* an x such that α ’ (i.e. as ‘tensed’) or ‘there *is, was, or will be* an x such that α ’ (i.e. as ‘tenseless’). However, as Barcan (1962) points out, the quantifiers are not verbs, they are quantifiers: expressions of the form ‘ $\exists x\alpha$ ’ can simply be read ‘for some x , α ’, in which the tense (if any) is located entirely in α , and expressions of the form ‘ $\forall x\alpha$ ’ can be read as ‘for all x , α ’, in which the tense (if any) is located entirely in α . Therefore there is no good reason to think the quantifiers have either reading.

Setting aside the claim that tenselessness amounts to disjunctive tensedness (which we discuss elsewhere in this paper), the relevant point here is that the existential and the universal quantifiers simply are “for some x ,” and “for all x ,” and thus, as so understood, do not involve predication. This way of looking at the quantifiers may be traced back to the way in which Quine (1981, §12) explains the meaning of the variable binding quantifiers of symbolic logic by treating variables as anaphoric pronouns, while passing over the nature of the syntactic link between a quantifier with its associated variable and the open sentence (“matrix” in Quine’s terminology) to which the quantifier and the variable are prefixed. In contrast, Frege, whom Quine refers to as the progenitor of these now current quantifiers (p. 71), and then Russell, explicitly tell us (as we shall see) that there is a predication there. Thus, Quine explains

³³ Once we grant that there is tenseless predication, we typically resort to the grammatical present tense to convey it. If so, the grammatical present tense is ambiguous, since it can be used tensedly or tenselessly. To avoid this ambiguity when the context requires precision, we can resort to the adverbs “presently” or “now” on the one hand, and “tenselessly,” on the other hand. This is what we have done throughout this paper. Thus, “Mary’s car is presently red” tells us that the instantiation of red by the car is present, whereas “Mary’s car is tenselessly red” provides no information as to whether this instantiation is past, present or future.

(p. 68) that “ $(x)(x = x)$ ” should be understood as “whatever you may select, it = it,” which in turn is a convenient manner of putting the more familiar “everything is identical to itself.” But he does not tell us how we should understand the link between “ (x) ,” or “whatever you may select,” or “everything,” or “for all x ,” for that matter, and the open sentence or predicate that follows. We are simply told that “everything” cannot be treated as a subject term such as “9” in “9 is less than, equal to, or greater than 0.” (In making this example, Quine focuses on the less generic “every number,” but of course the point is meant to be general.) Now, that there is a difference here is certainly correct, but in addition one should also note that the connection between the quantifier and the open sentence or predicate that follows is no mere juxtaposition, even when it is not marked by a verb because one uses a locution such as “for all x ,” the obvious thing to say, we think, is that this connection is predication. Frege and Russell go on to say, in essence, that the difference in question is this: in one case the quantifier is predicated of a predicate, “is identical to itself,” whereas in the other case a predicate, “is less than, equal to, or greater than 0,” is predicated of “9.” We find this convincing and we shall thus stick to this in the following, but, independently of this point, what crucially matters for our present concerns is the acknowledgment of a predication, and thus of the issue of the tensed or tenseless nature of the predication in question.

According to Frege, quantifiers, *qua* predicates of predicates, stand for higher-level concepts that apply to lower-level ones, whereas Russell would rather speak in terms of propositional functions. Going beyond the terminological and ontological details that differentiate the two great masters, we find it congenial to view the existential and universal quantifiers as expressing properties of properties such as being instantiated or being exemplified, and being universal, respectively; which we take to be predicable of more garden-variety properties such as being a table, stone, dog or dinosaur. And accordingly, we propose to use the predicates “is instantiated” and “is universal,” as appropriate variants of “for some x ,” “for all x ,” and the like. Thus, when we say that for all x , x is a table, or that everything is a table, we are saying that the property of being a table is universal. Similarly, in saying that for some x , x is a table, or that something is a table, we are saying that being a table is instantiated. The nominalistically-oriented philosopher may simply take this as a mere *façon de parler*. Thus, in particular, our appeal to being instantiated and being universal as properties of properties in our discussion of the triviality argument should not be taken to imply that presentists and eternalists must be committed to properties and thus cannot be nominalists, for of course the whole discussion can be rephrased in terms of predicates. What matters, let us emphasize it again, is that, in using the quantifiers, predication is involved, so that the issue of the tensedness or tenselessness of the quantification in question arises. And the copula present in the locutions “is instantiated” and “is universal” has the virtue of making this crystal clear. Thus, for example, that F is instantiated, or is universal, can be understood either as F is presently instantiated, or is presently universal; or F is tenselessly instantiated, or is tenselessly universal.³⁴ What is the difference? If we say that being F is presently universal, we can infer from it that a is F only if we

³⁴ It should be clear that we are not saying here that the existential and universal quantifiers can be defined in terms of more primitive notions such as exemplification and universality; we are simply using “exemplified” and “universal” to express what the two quantifiers respectively express, with the following

take “*a*” to refer to a presently existing object, but there is no such restriction if we say that *F* is tenselessly universal. Similarly, we can infer from *a* is *F* that being *F* is presently instantiated only if we take “*a*” to refer to a presently existing object, but there is no such restriction if we infer that being *F* is tenselessly instantiated. This makes a difference, depending on whether you are eternalist or presentist, since for the presentist, if “*a*” refers at all, it must refer to a present object; not so for the eternalist, according to whom “*a*” may refer to a non-present object. We shall see this difference at play in discussing the triviality objection.

Consider existence now. Following Frege and Russell, as is well known, general existential claims such as “tables exist,” “there exist tables” or “there are tables” are all equivalent and we can capture what they say by appealing to the existential quantifier: $\exists x$ *x* is a table. And thus, in the light of what we said above, these claims can be taken to mean that the property of being a table is instantiated, so that existence turns out to be a property of properties expressed by the existential quantifier; second-order existence, we may say, i.e., being instantiated (or exemplified). However, following Quine (1960, §37), we can also say that there is a first-order property of existence, namely the absolutely general or trivial property of being identical to something, expressible by this open formula: $\exists y$ $y = x$. Given this, saying that *x* tenselessly exists amounts to saying that the following property is tenselessly exemplified: being identical to *x*. Alternatively, we may put it in terms of an overall domain, ontological inventory or all-encompassing Master Class, the class *U* of self-identical things. Once such a class is assumed, we may say that to tenselessly exist is to be a member of *U*, but notice that tenselessness is deeply involved in such a claim; we are saying that a thing tenselessly exists if and only if this thing is tenselessly a member of *U*, and *U* in turn is defined as the class α such that a thing *x* tenselessly belongs to α if and only if *x* is tenselessly identical to *x*. Thus, we agree with Dolev when he claims, as we saw above, that one cannot appeal to the notion of an ontological inventory in order to define tenselessness. We differ from him, however, in taking tenselessness to be intelligible. And, once this intelligibility is granted, as we argued it should be, talking of an overall domain, ontological inventory or Master Class is legitimate, and may well aid understanding and imagination; of course, it does not lead to a definition of tenselessness, but this should not be sought, if this notion is independently granted.

Let us now dwell on the difference between predicating existence tensedly and tenselessly. We all agree that Trump is presently a president and thus, obviously, that he presently exists. Hence, there presently is a thing such that this thing is presently a president, i.e., being a president is presently instantiated. Both presentists and eternalists will agree on this. We also agree that Caesar crossed the Rubicon, and an eternalist may infer therefrom that there is a thing, or there is a member of the ontological inventory, such that this thing crossed the Rubicon. Here, second-order existence is predicated tenselessly of the property of having crossed the Rubicon. The eternalist is not saying that there is presently a thing such that this thing crossed the Rubicon; she is rather saying that there is tenselessly a thing, or there is tenselessly a member of the ontological inventory, such that this thing, or member, crossed the Rubicon.

Footnote 34 continued

advantage: since these two locutions require the copula “is” to be deployed, they make it evident that in quantifying we predicate. Alternatively, we could have used locutions such as “possessed by something” and “possessed by everything.”

The presentist will of course deny that such a claim may be inferred from the truth that Caesar crossed the Rubicon. Or suppose that it is at time t that Caesar crossed the Rubicon. Then, an eternalist may claim that at t Caesar crosses, tenselessly, the Rubicon, and from this that there is, tenselessly, a thing such that at t this thing crosses, tenselessly, the Rubicon. This eternalist will not however infer that there is, presently, a thing such that at t this thing crosses, tenselessly, the Rubicon.³⁵ We may also predicate tenselessly the trivial first-order property of existence. The eternalist may further say, for example, that, since Caesar crosses the Rubicon at t , obviously at t Caesar tenselessly exists. Or she may say that there is tenselessly a thing such that this thing tenselessly exists and is also such that, at t , it tenselessly crosses the Rubicon.

It should not be forgotten that along with the rather standard Frege-Russell-Quine tradition, there is also the minoritarian Meinongian tradition, according to which there is a non-trivial first-order monadic property of existence, which some objects, the non-existents, may fail to have: Donald Trump exists, whereas the golden mountain does not. In this framework “there is an F ” and “there exists an F ” are not equivalent. For example, there is a golden mountain, but it fails to exist and thus it is not the case that there exists a golden mountain. The standard view is typically presupposed in temporal ontology and here we take it for granted, but for present concerns nothing hinges on whether or not we go Meinongian. From a Meinongian perspective, we simply have to make sure that we speak in terms of this non-trivial notion of existence, call it *m-existence*. Thus the Meinongian presentist will claim that all that tenselessly *m*-exists presently *m*-exists, and the Meinongian eternalist will rebut that there tenselessly are things that tenselessly *m*-exist and yet do not presently *m*-exist.

It is important to note here that the characterization of tenselessness that we have provided does not imply that there cannot be change in what there is tenselessly or more generally in the truth value of tenseless truth-bearers. To be sure this assumption is often made, presumably as a by-product of the fact that those who typically resort to a tenseless language are B-theorists. Indeed, from a B-theoretical point of view, there is no change in what there is tenselessly and in the truth value of tenseless truth-bearers. Thus, for example, “there are tenselessly dinosaurs” is true now, as there are presently no dinosaurs, just as it was true long ago when there were dinosaurs. However, there is no reason why presentists or other A-theorists should refrain from speaking tenselessly, and actually there are good reasons for them to do that; the very statement of presentism, we are arguing in this paper, requires a mixture of tenseless and tensed language. And, from the presentist perspective, there can be this sort of

³⁵ Here a referee pointed out the following: “it’s not unusual for B-theorists to interpret tense operators as redundant when the sentences in their scope are ‘temporally saturated,’ in the sense that all relevant time-variables have been filled in. On this view, ‘presently, something is such that at t , it crosses the Rubicon’ is equivalent to ‘something is such that at t , it crosses the Rubicon,’ and therefore the second sentence implies the first.” Following the way we are phrasing things in an effort to minimize ambiguities, the idea is that a B-eternalist may take the following to be equivalent: (a) there is, tenselessly, a thing such that at t this thing crosses, tenselessly, the Rubicon, and (b) presently, there is, tenselessly, a thing such that at t this thing crosses, tenselessly, the Rubicon. Perhaps, a B-eternalist may take this line, but what is worth emphasizing here is that (b) is quite different from the claim that there is, presently, a thing such that at t this thing crosses, tenselessly, the Rubicon. For, as explained above, from an eternalist point of view, the latter may be inferred from “at t , Caesar crosses, tenselessly, the Rubicon” only if “Caesar” refers to a presently existing item; whereas (b), if taken to be equivalent to (a), may be inferred from “at t , Caesar crosses, tenselessly, the Rubicon,” simply because “Caesar” refers to something, whether present or not.

change. For example, a presentist may say that “there are tenselessly dinosaurs” is now false, but it was true long ago, when there were dinosaurs and “there are presently dinosaurs” was also true. Thus, eternalists and presentists disagree on what there tenselessly is, since according to the latter, but not according to the former, what exists tenselessly is subject to change.

Let us now consider Dolev’s point about the allegedly polyvocal and domain-dependent nature of existence attributions. In a nutshell, what Dolev seems to be saying is that in different domains we speak of irreducibly different things and thus, depending on the domain, when we claim that things in that domain exist, we use “exist” in different ways, so that there is no domain-independent meaning of “exist,” which accordingly has a plurality of meanings.³⁶ In reply, let us note first of all that it is far from obvious that the irreducible plurality of things, which should of course be granted, corresponds to a plurality of uses, and hence of meanings, of “exist.” We may say both of physical objects and of morally right actions that they exist, and understand this in terms of the standard, tenselessly used, existential quantifier: there are, or exist, physical objects and there are, or exist, morally right actions, and if *a* is a physical object or a morally right action, there is, or exists, something to which *a* is identical to. Physical objects and morally right actions are, no doubt, very different sorts of things, but why should we infer from this that we have used “exist” in different senses? By the same token, we should infer from the diversity of a whale and a mouse that we use “mammal” with different meanings when we say that both the whale and the mouse are mammals.³⁷ But even if it were true that the irreducible plurality of entities gave rise to different meanings of “exist,” say, exist1, exist2, exist3, etc., we could still assume that there is also a *disjunctive* reading of “exist:” exist1 or exist2 or exist3 or..., and take this reading to be at play in temporal ontology. Thus, for example, the presentist would be saying that all the things that tenselessly exist1 or tenselessly exist2 or,... are such that they presently exist1, if tenselessly existing1, and they presently exist2, if tenselessly existing2 and... And similarly the eternalist would be saying that there are things that tenselessly exist1 and do not presently exist1 and things that tenselessly exist2 and do not presently exist2 and... After all, Scanlon himself (2014, p. 23) admits that “we can form a coherent idea of a domain concerned with the general idea of existence that applies to everything we are committed to quantifying over in a range of particular domains.” The only problem he sees in it is a lack of “thickness” (Scanlon 2014, p. 23). By this he means that this general notion of existence does not yield new standards for making existence claims *in addition* to those of the specific domains. But this is as it should be, given the all-encompassing character of the general notion of existence.

Thus, tenseless predication seems to make perfect sense and, to further certify this, it is interesting to see that Dolev himself implicitly makes use of it. Dolev (2018) complains that Orilia classifies him as eternalist simply because he speaks of past and future events and begs the question against him by taking for granted that there is a general ontological inventory and thus tenseless predication and tenseless attribution of existence. However, Orilia more specifically relies on Dolev’s (2007) talking of past

³⁶ Hence, according to Dolev, there cannot be the notion of an all-encompassing ontological inventory.

³⁷ See Van Inwagen (2009) for further support on these points.

and future events as parts of a temporally extended event, which, given the appropriate context, is taken to be present. According to Dolev (2007), the present tense or “now” allow us to pick up, depending on the context, a more or less temporally extended present event. This contextual account of presentness surfaces again in Dolev’s reply (2018), when he considers the case of his “[h]aving coffee with Mark,” thereby picking up “a present event which has parts that are past or future—chatting before the coffee arrives, ordering another scone, and so on” (Dolev 2018, §2). Since, according to Dolev, there is no tenseless predication, it would be wrong to say that he meant to appeal to it in his description of this example. Yet, it seems to us that this description must involve tenseless predication for it to make sense. Let us see why. Call the present event in question e . Since we are assuming that we are in a context in which e as a whole is present, we can hardly say that e has *presently* past or future parts. Consider the parts mentioned by Dolev: a chatting, e_1 , a coffee arrival, e_2 , a scone ordering, e_3 . For one of them to be past or future it must be occurring either before or after now. However, by hypothesis it is e as a whole that occupies the now in question, and neither e_1 , nor e_2 , nor e_3 are before or after e , as all of them are comprised in it. We should certainly agree, however, that these parts are ordered by the earlier/later relation and only in this sense we can speak of them as past or future: e_1 is earlier than e_2 , which is earlier than e_3 , so that e_1 is past with respect to e_2 , which in turn is future with respect to e_1 , and similarly for e_2 and e_3 . And for this to make sense the predication must be tenseless: it is *not* the case that e_1 is *presently* before e_2 or that e_2 is *presently* before e_3 , for what is presently occurring, according to Dolev, is e as whole; it is rather the case, then, that e_1 is *tenselessly* earlier than e_2 , which is *tenselessly* earlier than e_3 .

5 A full reply to the triviality challenge

Let us now go back to the triviality challenge. In Lombard’s formulation, on which we shall dwell in the first part of this section, the objection unfolds by presupposing serious tensism. It is instructive to see that, because of this presupposition, the objection, when carefully analyzed, involves a commitment to a specific tensed ontology and “proves” the insubstantiality of the debate in a trivial way, by begging the question against other ontologies. Accordingly, the objection, as so understood, cannot be used to support deflationism. This result is independent from the defense of tenselessness that we put forward in the previous section, and thus we may hope that even the obstinate serious tensor who did not find such a defense compelling could see here reasons in favor of substantialism. However, once tenselessness is admitted, as we think it should be, a full vindication of substantialism requires checking that, with tenseless predication available, the triviality objection does not still go through. In the second part of this section we shall then move to this task.

Let us focus with a logical microscope on (P2) and (E2). Consider the former first. There is an “everything” that hides a predication. We can bring it to light by using the “is universal” locution so as to put (P2) as follows:

(P2') *being such that if it existed, or exists now or will exist, then it exists now is universal.*³⁸

Now the issue of interpreting the “is” of “is universal” arises. Insofar as the deflationist is assuming serious tensism, as Lombard at least initially does, this interpretation should be tensed. This worry is raised by Ludlow (2004) in his reply to Crisp (2004a), who, as noted, appeals to unrestricted quantifiers to counter the triviality challenge.³⁹ Crisp (2004b, p. 42) counter-replied that, if one wants tensed quantifiers, (P) can be read thus: “For every past, present, or future thing x , if x existed, exists, or will exist, then x is a present thing or, more simply,... Every past, present, or future thing is a present thing.” (He then claims that both these readings are non-trivial and thus escape the triviality challenge.) These readings however operate on the property of which universality is predicated and tell us nothing about how, tensedly or tenselessly, universality is predicated of this property. For example, in Crisp’s first proposal universality is predicated of this property: *being a thing such that, if this thing is past or present or future, then it presently exists, provided it existed, exists now, or will exist*. But is it predicated tensedly or tenselessly? We are not told. However, there is no need to fuss with the property of which universality is predicated. What is needed is that universality be predicated tensedly, if serious tensism is assumed. At the same time, the serious tensor, *qua* deflationist, needs a universally quantified assertion with respect to which (A), i.e. the claim that Aristotle did, but does not now exist, works as a counterexample. In other words, the deflationist must be able to instantiate from the universal quantifier of the universally quantified assertion to Aristotle and infer

(A*) if Aristotle existed, or exists now or will exist, then Aristotle exists now,

in order to then claim that (A*) is in conflict with (A), i.e., that Aristotle existed but does not exist now. But whatever tensed interpretation of “is universal” is chosen by the deflationist, this result can hardly be achieved, unless, as anticipated, we presuppose a very specific and controversial view in temporal ontology. We shall see this in a moment, but let us first pause to notice that this point is overlooked not only by Lombard and Crisp, but also by another substantialist such as Mozerky (2011), when he concedes, in practice, that (P2') is in conflict with (A), without questioning the deflationist’s right to obtain (A*) without tenseless predication available. Let us now see what the options for the deflationist serious tensor are.

Suppose the “is” is understood as present-tensed:

(P2'a) *being such that if it existed, or exists now or will exist, then it exists now is presently universal.*

As remarked in Sect. 4, what we can infer from the fact that a certain property, P , is presently universal, is that the Eiffel tower presently has it, Trump presently has it, and so on, as long we name presently existing objects; we cannot infer, e.g., that Aristotle also presently has property P . Thus, in particular, we may infer from (P2'a)

³⁸ Here and in the following for readability we use italics in making up property names, when these are particularly complex.

³⁹ We saw that Ludlow distinguishes serious tensism and very serious tensism, but for present purposes we need not go into these details.

that, e.g., Trump has now the property *being such that if it existed, or exists now or will exist, then it exists now*, and thus claim that if Trump existed, or exists now or will exist, then Trump exists now. But we may not infer that Aristotle has now that property and thus claim (A*).

Suppose then that the “is” of “is universal” is understood as disjunctively tensed:

(P2′b) *being such that if it existed, or exists now or will exist, then it exists now* was universal, or is now universal or will be universal.

We can instantiate to Aristotle at most from the first disjunct of (P2′b).⁴⁰ However, since such a disjunct is past-tensed, presumably all that we can infer in this way from it is not (A*), but rather a past-tensed version of (A*):

(A**) it was the case that if Aristotle existed, or presently exists or will exist, then Aristotle presently exists.

But it is simply (A*), not its past-tensed version (A**), that we need in order to license the claim that (A) is a counterexample to (P): (A) contradicts (A*), not (A**). In sum, even if we could rule out the second and third disjuncts of (P2′b), which we can’t, with this interpretation of “is universal” the triviality objection does not go through.

Finally, the deflationist could appeal to a conjunctively tensed reading:

(P2′c) *being such that if it existed, or exists now or will exist, then it exists now* was universal, and is now universal and will be universal.

In this case the proposition wherefrom we can perhaps instantiate to Aristotle, namely that *being such that if it existed, or exists now or will exist, then it exists now* was universal, is a conjunct, rather than a disjunct. This is an advantage, because we can immediately infer it from (P2′c). But, as we already saw, all we can infer from it is (A**) and not what the deflationist needs, i.e. (A*).

Let us move now to the controversial ontological position hidden behind the triviality objection. It is a position that Lombard, as we shall now see, indeed appears to accept. Lombard considers the notion of a most inclusive domain of quantification, but he thinks he can appeal to it with only a tensed language available. This surfaces in his discussion of Zimmerman’s (1998) proposal to define presentism in terms of a “largest class of all real things.” At that juncture Lombard considers “is now real” as a reading of “tenselessly exists,” where in turn, “is now real” is interpreted as “is now a member of the Master Class.” The term “Master Class” is Lombard’s favorite label for Zimmerman’s largest class of real things, or, we may say, Crisp’s most inclusive domain; or, we may also say, the ontological inventory. Something is now a member of the Master Class, we are told, if and only if this something either existed or exists now or will exist, or would exist if there were no times. The latter disjunct is, in Lombard’s terminology, the condition for being an abstract object and presumably must be understood as tenseless (let us pass this); since presentism and eternalism should not be understood as theses regarding abstract objects, this may be ignored.⁴¹ In sum,

⁴⁰ Even this is moot, for the fact that a property was universal need not imply that it was universal when Aristotle existed, but let us pass this.

⁴¹ Thus, in the end, if we understand the “tenselessly” of (P3) and (E3) in terms of Lombard’s “now real,” (P3) and (E3) reduce once more to (P2) and (E2).

Lombard concedes that there is now a Master Class, and that the entities that are now members of this class are the entities that are now real, i.e. are such that they either existed or exist now or will exist. In admitting this, Lombard emphasizes that to be real is different from existing: Aristotle and Clinton are both real (now), in that the former existed and the latter exists now, whereas Superman is not real (now) in that he neither existed, nor exists now, nor will exist. In the light of this, then Lombard also claims that Aristotle, *qua* member now of the Master class and thus now real, “can be the value of unrestricted quantification... can be referred to (indeed is now being referred to by me [= Lombard], and be the subject of present-tensed predications (though he cannot now have any property that implies current existence)” (Lombard 2010, p. 60). Presumably, if one takes this stand, one can then infer from (P2'a) that, (now) if Aristotle existed, or exists now or will exist, then Aristotle exists now. But let us carefully see what this option involves. Lombard is seemingly ruling out that Aristotle is now a philosopher, or that Aristotle is now lecturing on metaphysics, or that he is now sleeping, or now awake, or now sitting, or now standing; since being a philosopher, etc. are all properties that imply current existence. But he is not ruling out that Aristotle is now a value of unrestricted quantification, that is now such that Lombard refers to him, that he is now such that he was a philosopher and lectured on metaphysics, since all this is compatible with Aristotle's not existing now. This is really to say that there is now a thing such that Aristotle is now identical to this thing, i.e. that now $\exists y$ now $y = \text{Aristotle}$. According to the standard conception of existence reviewed above, to exist is to be identical to something, and thus to exist now is now to be identical to something, or more precisely now to be now identical to something, a property expressible with the open formula “now $\exists y$ now $y = x$.” However, Lombard tells us that this is only to be real now and that this differs from existing now. He is then diverging from the standard conception of existence. This may be only a terminological issue: Lombard is using “is real” in the way in which “exists” is used in the standard conception. But there is a more serious and substantial issue. According to Lombard, there is now a y such that now $y = \text{Aristotle}$ and now Lombard refers to y and y existed and y was lecturing on metaphysics and y is not now lecturing on metaphysics. What kind of doctrine is it? It appears to be the thesis defended by Williamson (2002), according to which merely past objects such as Aristotle do not go out of existence, as the presentist has it, nor do they just exist at past times, but exist now as “ex-concrete” objects, i.e. objects that were concrete in the past, and thus occupied space and had properties such as sitting or lecturing on metaphysics, but are not now concrete and thus cannot have now such properties; they can now have only properties such as having lectured on metaphysics or being referred to by Lombard. There is a difference in terminology of course. Lombard would say that these objects are now real, but all the properties they now have do not imply “current existence” and thus these objects do not now exist. Williamson would rather say that they now exist, but are not now concrete, as all the properties they now have fail to imply concreteness. But apart from the terminological differences, they are committed to the same ontological view. An interesting but far from obvious view, which has been taken to be a form of eternalism (see Zimmerman 2008, §3), but, if such, it is certainly not

the only form of eternalism.⁴² According to a more standard eternalist view, there are tenseless propositions such as that Aristotle is a philosopher at a certain past time t , and that Lombard *qua* existing at t , the time of utterance, refers to Aristotle, *qua* existing at a certain past time (Torrengo 2010, § IV), which do not imply that there is now an entity which is Aristotle, which is now such that he was a philosopher and he is now such that Lombard now refers to him. Once the Williamsonian eternalism that Lombard seems to espouse is taken for granted, it makes sense to say that (A*) follows from (P2'a), for, given this sort of eternalism, Aristotle (*qua* ex-concrete) is among the present entities. Accordingly, from this perspective, one can say that presentism is contradicted by (A). But no charge of triviality against presentism can be levelled, because it is not obvious that (A*) follows from (P2'a): it does only after assuming a very specific view in temporal ontology, thereby begging the question against other views, including presentism and versions of eternalism.⁴³

Consider (E2) now. According to Lombard, it is obviously true in the light of (A). How can this be? Presumably we must be able to take (A) as obviously true and then take (E2) as also true *qua* derived from (A) in an obvious way. Let us see whether this is possible. (E2) is a disjunction of three claims:

- (E2i) there were things that do not now exist;
- (E2ii) there are now things that do not now exist;
- (E2iii) there will be things that do not now exist.

For (E2) to be true, as the deflationist claims, at least one of these disjuncts must be true. (E2ii) is (E1), which Lombard took to be obviously false. We may then choose either (E2i) or (E2iii). Let us consider, for simplicity's sake, only (E2i), since what we shall say about it could be repeated *mutatis mutandis* for (E2iii). How should we interpret (E2i)? It seems to involve an existential quantifier taking wide scope over the past-tensed “were things” and the present-tensed “do not now exist.” In other words, (E2i) is telling us that the following conjunctive property is instantiated: *having been a thing (or having existed) and not existing now*. But now we must interpret “is instantiated.” Given serious tensism, it must mean “is now instantiated” and thus (E2i) should mean that *now* there exists a thing such that it existed and does not now exist.⁴⁴ This is contradictory, unless we read “exist” in two different ways by a recourse to the controversial ontological position taken for granted by Lombard, which we connected to Williamsonian eternalism. That is, we read (E2i) as either: now there is a real thing such that it existed and does not now exist; or as: now there exists a thing such that it existed and it is not now concrete. If we assume this ontological standpoint, we can in turn understand (A) as true and as a logical ground for the truth of (E2i), because

⁴² If we take to be essential to eternalism that there are temporal items, such as objects and events, that tenselessly exist at non-present times, this view is not strictly speaking eternalist. Moreover, this view could even be incorporated into a “moderate” form of presentism; see Orilia (2016).

⁴³ Meyer (2013b, p. 76) considers the idea of associating Williamson's position to a tensed reading of the quantifiers, but rather than noting that this amounts to endorsing a very specific temporal ontology, which would be impossible if the deflationists were correct, he takes this option as another way of showing that presentism is trivial.

⁴⁴ The serious tenser may perhaps say that a disjunctively or conjunctively tensed interpretation of “is instantiated” should also be taken into account. However, the present-tensed interpretation that we have considered is the obvious one to pick, if (E2i) is to be seen as derivable from (A).

“Aristotle” is taken to be a referring term whose referent is now real but not now existent, or now existent but not now concrete. But since this ontological position is controversial, we cannot take (E2) to be *obviously* true.

In sum, given serious tensism, in order to make the inferences that the triviality objection appears to require, one needs a commitment to Williamsonian eternalism or something like that, and then the objection goes through, so to speak, only by begging the question against other positions.

Let us now see what happens once tenselessness enters the picture. We can now interpret (P2′) as follows:

(P2′d) *being such that if it existed, or exists now or will exist, then it exists now is tenselessly universal.*⁴⁵

Now any eternalist, not just the Williamsonian eternalist, can infer from (P2′d) that, if Aristotle existed, or exists now or will exist, then Aristotle exists now. And then, since the eternalist will take this to be in conflict with (A), she will consider (P2′d) false. But in order to argue that (P2′d) is not only false, but *obviously* false, we must also admit that the inferential move performed by the eternalist in instantiating to Aristotle is trivial. And this is far from obvious, because this move presupposes that “Aristotle” has, tenselessly, a referent, which is fine for the eternalist, but begs the question against the presentist.⁴⁶ This is at bottom, we think, what Crisp (2004a) is proposing when he tells us that the universal quantifier of (P2) is unrestricted, so that it ranges over “the class of all things in time, which existed, exist now, or will exist,” and not just over present things, although it is not obvious that this class includes Aristotle. But in putting things *à la* Crisp we fail to appreciate that tenseless predication is involved, and so we find Deasy (2017a) explicitly claiming that quantifiers are neither tensed nor tenseless. In contrast, (P2′d) has the virtue of letting us see clearly how tenselessness is at play in the formulation of presentism. Of course, once tenseless predication is admitted, the substantialist can also resort to (P3) as expression of presentism, or, more precisely, to:

(P3′) *being such that if it tenselessly exists, then it exists now is tenselessly universal.*

This is not trivial, for the same reasons that make (P2′d) non-trivial.

The presentist must of course agree with the eternalist that “Aristotle existed” and “Aristotle does not now exist” are true, but she can interpret them in such a way that their truth is compatible with the truth of (P2′d). For example, she can interpret the past tense as involving a Priorean past-tense operator and proper names to be

⁴⁵ Meyer (2013b, §5) considers this option, although, for reasons that we saw, he fails to take into account the analogous option for eternalism. Lombard (2010) comes close to an implicit recognition of this reading, although it is not clear that he really does, because his exposition is not entirely transparent in this respect.

⁴⁶ Meyer (2013b), in carrying out the triviality objection (as addressing presentism only), makes the analogous inference consisting of an existential generalization on the proposition that it was the case that Julius Caesar crossed the Rubicon, which yields that there is tenselessly something such that it was the case this something crossed the Rubicon. He considers the objection that this move is illicit given that “Julius Caesar” lacks a present referent, but in the end puts the objection aside on the ground that the quantified tense logic with untensed quantifiers that he is assuming grants this inference. But clearly this tense logic is presupposing eternalism. It may be enough to have recourse to a free tense logic (see Cocchiarella 1991) to avoid this automatic commitment to eternalism, but we must reserve a more thorough discussion of these formal issues for another occasion.

definite descriptions in disguise. Then, assuming the Russellian analysis of definite descriptions, “Aristotle existed” is interpreted as “it was the case that there is exactly an *A*,” where “*A*” is a predicate corresponding to the proper name “Aristotle.”⁴⁷ Similarly, “Aristotle does not now exist” means “it is not the case that there is presently exactly an *A*.” And the truth of these claims is compatible with the truth of (P2’d). There would not be such a compatibility if we could infer from (P2’d) that, if it was the case that there is exactly an *A*, or it is now the case that there is exactly an *A* or it will be the case that there is exactly an *A*, then presently there is exactly an *A*. But there is no way to infer this from (P2’d).⁴⁸

As regards (E2), we can now take “is instantiated” to mean “is tenselessly instantiated” so as to take (E2i) above to mean that there is, tenselessly, a thing such that it existed and does not now exist. We can infer this in an obvious way from (A), by existential generalization, if we in turn interpret (A) as involving a term, “Aristotle,” that has tenselessly a referent. But (A), as so interpreted, is not obviously true, for its truth appears to require eternalism. The presentist will agree that Aristotle existed and does not exist now, but, as noted, she will take it to mean that it was the case that there is exactly an *A*, and that it is presently not the case that there is exactly an *A*.⁴⁹ Of course, with tenseless predication available, the substantialist can resort to (E3) rather than to (E2); and (E3) does not lead to triviality just like (E2).

6 Conclusion

In recent years deflationists about temporal ontology have argued that the presentism/eternalism dispute is not substantial. Denying or downplaying the meaningfulness of tenseless language and wielding the so-called triviality objection have been their main argumentative tools. Substantialists about temporal ontology have opposed this deflationist trend, mainly by bringing to the fore tenselessness or unrestricted quantification in an attempt to resist the triviality objection. Despite their efforts, there has been in the past few years a new wave of deflationism, wherein the triviality objection and qualms about the legitimacy of tenselessness and unrestricted quantification still loom large. We have reacted to this new wave and joined the substantialist camp, by providing a new clarification of tenseless predication, unrestricted quantifiers and their role in rescuing substantialism from the triviality objection. Since our proposal does not involve taking a stand in favor of any of the contenders in temporal ontology, it will not lead to a step forward in the resolution of the dispute, which as a matter of fact may well be perennial. We hope, however, that it will contribute to eradicate worries about its substantiality.

⁴⁷ See Orilia (2010, 2018) on how to do this in a way that avoids the typical objections to a descriptivist account of proper names.

⁴⁸ Alternatively, the presentist may assume that proper names may be denotationless and assume a free logic.

⁴⁹ However, this will not support the claim that there is, tenselessly, a thing that existed and does not exist now.

Acknowledgements The authors are equally responsible for the content of this paper and are grateful to the anonymous *Synthese* referees for their valuable comments. Useful suggestions were also provided by Gregory Landini, Nathan L. Oaklander and William F. Vallicella.

Appendix: Tenselessness and natural language

Tenseless predication is clearly appealed to by the early B-theorists. Three main kinds of tenseless sentence (involving only tenseless predication) have been traditionally recognized: *abstracta* sentences, which are about abstract entities, e.g., “two is a prime number;” *B-relational* sentences such as “the birth of Plato is earlier than the birth of Aristotle;” and *neutrally dated* sentences such as “Caesar crosses the Rubicon at 5 a.m. on January 10, 49 B.C.” This last sentence tells us when a certain attribute, crossing, is instantiated, but it does this without qualifying this as past, present or future. If we simply consider its subpart, “Caesar crosses the Rubicon,” we get a tenseless sentence such that, for it to be true, it must be true at some time or other, and is thus different from abstracta and B-relational sentences. In other words, that Caesar, tenselessly, crosses the Rubicon is true if and only if there is a time at which Caesar crosses the Rubicon. In contrast, it is not the case that two is a prime number at a certain time, or that the birth of Plato is earlier than the birth of Aristotle at a certain time (or at least this is what a typical B-theorist would say). Some B-theorists, such as Russell and Quine, might have thought that resorting to a tenseless language is a linguistic *reform* that takes us beyond the strictures and inconveniences of natural language. But others, perhaps the majority, thought that tensed sentences were tenseless sentences “in disguise,” as Loux (2006, p. 216) puts it. In other words, according to them, in order to perspicuously convey the meaning of tensed sentences, one should provide a tenseless paraphrase. Thus, for example, the meaning of the tensed sentences “Mary is tired” and “Mary was tired” are provided, respectively, by the neutrally dated tenseless sentences “Mary is tired at t ” and “there is a time t' earlier than t such that Mary is tired at t' ” (where t is the time of utterance). Or, alternatively, the meanings are provided, respectively, by the tenseless B-relational sentences “Mary’s being tired is simultaneous with the utterance of this token” and “Mary’s being tired is earlier than the utterance of this token.” If so, tenseless predication, far from being absent from natural language, would be implicitly presupposed in the common tensed way of speaking. As is well-known, the legitimacy of these tenseless paraphrases has been questioned and nowadays even B-theorists do not view them as capable of conveying the meanings of the corresponding tensed sentences; they are taken to express only their truth conditions (see, e.g., Oaklander and Smith 1994). Perhaps the jury is still out, though. It has recently been claimed that the arguments against taking these paraphrases as “meaning-providers” are not conclusive after all (Orilia and Oaklander 2015). Be this as it may, the very fact that we can argue about the legitimacy of these paraphrases testifies that we understand them perfectly well, which in turn may be taken to suggest that the tenseless predication involved in such paraphrases is already at home in natural language. It is the very same tenseless predication, one may continue, that is also found in sentences such as “John is sometimes tired,” or in abstracta sentences.

This is of course no conclusive evidence that tenseless predication is part of pre-philosophical natural language, and indeed one could argue to the contrary by turning to the attempts of some earlier A-theorists to show that a tenseless sentence is just, as Loux again puts it (2006, p. 218), a “disguised way” of making a tensed claim. For example, to say that Plato’s birth is earlier than Aristotle’s birth would be to make a disjunctive tensed claim such as the following one. It was the case that: Aristotle is being born and Plato is not being born and Plato was born; or Aristotle is being born and Plato is not being born and Plato was born; or it will be the case that Aristotle is being born and Plato is not being born and Plato was born. Similarly, “John is sometimes tired” would be read as disjunctively tensed: John was tired or John is presently tired or John will be tired. And a logico-mathematical sentence such as “2 is a prime number” would mean: 2 has always been, is presently, and will always be a prime number. We should agree that it is an empirical issue whether or not natural language contains tenseless predication, and in the light of these paraphrases one could think that the allegedly tenseless natural language sentences that we have provided are not really tenseless after all. This would be so if paraphrases such as those we have seen indeed provided the true hidden meaning of the allegedly tenseless sentences, as the earlier A-theorists seem to have thought. We may leave this issue open here, for what really matters for present purposes is that tenseless predication is intelligible, whether or not it is part of natural language.

References

- Baron, S., & Miller, K. (2013). Characterizing eternalism. In R. Ciuni, K. Miller, & G. Torrenzo (Eds.), *New papers on the present: Focus on presentism* (pp. 31–65). München: Philosophia Verlag.
- Callender, C. (2000). Shedding light on time. *Philosophy of Science*, 67(3), 587–599.
- Callender, C. (2012). Time’s ontic voltage. In A. Bardon (Ed.), *The future of the philosophy of time* (pp. 73–98). New York: Routledge.
- Callender, C. (2017). *What makes time special?*. Oxford: Oxford University Press.
- Campbell, J. K., O’Rourke, M., & Silverstein, H. (Eds.). (2010). *Time and identity*. London: The MIT Press.
- Cocchiarella, N. B. (1991). Quantification, time, and necessity. In K. Lambert (Ed.), *Philosophical applications of free logic* (pp. 242–256). Oxford: Oxford University Press.
- Crisp, T. (2004a). On presentism and trivality. In D. W. Zimmerman (Ed.), *Oxford studies in metaphysics* (Vol. 1, pp. 15–20). Oxford: Oxford University Press.
- Crisp, T. (2004b). Reply to Ludlow. In D. W. Zimmerman (Ed.), *Oxford studies in metaphysics* (Vol. 1, pp. 37–46). Oxford: Oxford University Press.
- Deasy, D. (2017a). What is presentism? *Noûs*, 51(2), 378–397.
- Deasy, D. (2017b). The trivality argument against presentism. *Synthese*. <https://doi.org/10.1007/s11229-017-1601-y>.
- Deng, N. (2018). What is temporal ontology? *Philosophical Studies*, 175(3), 793–807.
- Dolev, Y. (2007). *Time and realism: Metaphysical and antimetaphysical perspectives*. Massachusetts: MIT Press.
- Dolev, Y. (2018). Is ontology the key to understand tense? *Synthese*, 195(4), 1741–1749.
- Dorato, M. (2006). The irrelevance of the presentist/eternalist debate for the ontology of Minkowski spacetime. In D. Dieks (Ed.), *Philosophy and foundations of physics: The ontology of spacetime* (pp. 93–110). Amsterdam: Elsevier.
- Dorato, M. (2018). *Presentism and eternalism as stances*. Unpublished ms.
- Gale, R. (Ed.). (1968). *The philosophy of time*. New Jersey: Humanities Press.
- Hestevold, H. S., & Carter, W. R. (2002a). *What is presentism, and does it preclude persistence?* Paper presented at the American Philosophical Association, Pacific division, April 2002.

- Hestevold, H. S., & Carter, W. R. (2002b). On presentism, endurance, and change. *Canadian Journal of Philosophy*, 32(4), 491–510.
- Ingram, D. & Tallant, J. (2018). Presentism. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Spring 2018 Edition). <https://plato.stanford.edu/archives/spr2018/entries/presentism/>.
- Lombard, L. B. (1999). On the alleged incompatibility of presentism and temporal parts. *Philosophia*, 27(1–2), 253–260.
- Lombard, L. B. (2010). Time for a change: A polemic against the presentism–eternalism debate. In J. K. Campbell, M. O’Rourke, & H. Silverstein (Eds.), *Time and identity* (pp. 49–77). London: The MIT Press.
- Loux, M. J. (2006). *Metaphysics. A contemporary introduction* (3d ed.). New York: Routledge.
- Ludlow, P. (2004). Presentism, triviality, and the varieties of tensism. In D. W. Zimmerman (Ed.), *Oxford studies in metaphysics* (Vol. 1, pp. 21–36). Oxford: Oxford University Press.
- Marcus, R. B. (1962). Interpreting quantification. *Inquiry*, 5, 252–259.
- Markosian, N. (2004). A defence of presentism. In D. W. Zimmerman (Ed.), *Oxford studies in metaphysics* (Vol. 1, pp. 48–82). Oxford: Oxford University Press.
- Merricks, T. (2007). *Truth and ontology*. Oxford: Clarendon Press.
- Meyer, U. (2005). The presentist’s dilemma. *Philosophical Studies*, 122(3), 213–225.
- Meyer, U. (2013a). *The nature of time*. Oxford: Oxford University Press.
- Meyer, U. (2013b). The triviality of presentism. In R. Ciuni, K. Miller, & G. Torrenzo (Eds.), *New papers on the present: Focus on presentism* (pp. 67–87). München: Philosophia Verlag.
- Mozerky, M. J. (2011). Presentism. In C. Callender (Ed.), *The Oxford handbook of philosophy of time* (pp. 122–144). Oxford: Oxford University Press.
- Mozerky, M. J. (2015). *Time, language and ontology*. Oxford: Oxford University Press.
- Oaklander, N. L. (2008). General introduction. In N. L. Oaklander (Ed.), *The philosophy of time* (Vol. I, pp. 1–11). New York: Routledge.
- Oaklander, N. L. (2012). A-, B-, and R-theories of time: A debate. In A. Bardon (Ed.), *The future of the philosophy of time* (pp. 1–24). New York: Routledge.
- Oaklander, N. L. (2014). Dolev’s anti-metaphysical realism: A critique. In N. L. Oaklander (Ed.), *Debates in the metaphysics of time* (pp. 3–29). London: Bloomsbury.
- Oaklander, N. L., & Smith, Q. (Eds.). (1994). *The new theory of time*. New Haven: Yale University Press.
- Orilia, F. (2010). *Singular reference: A descriptivist perspective*. Dordrecht: Springer.
- Orilia, F. (2014). Two metaphysical perspectives on the duration of the present. In N. L. Oaklander (Ed.), *Debates in the metaphysics of time* (pp. 51–70). London: Bloomsbury.
- Orilia, F. (2016). Moderate presentism. *Philosophical Studies*, 173(3), 589–607.
- Orilia, F. (2018). Russell’s descriptivism about proper names and indexicals: Reconstruction and defense”. In L. D. C. Elkind & G. Landini (Eds.), *The philosophy of logical atomism. A centenary reappraisal* (pp. 245–260). New York: Palgrave MacMillan.
- Orilia, F., & Oaklander, N. L. (2015). Do we really need a new B-theory of time? *Topoi*, 34(1), 1–14.
- Putnam, H. (1987). *The many faces of realism*. La Salle, IL: Open Court.
- Putnam, H. (2013). Comments on Charles Parsons’ “Putnam on existence and ontology”. In M. Baghramian (Ed.), *Reading Putnam* (p. 2012). New York: Routledge.
- Quine, W. V. O. (1960). *Word and object*. Cambridge: The MIT Press.
- Quine, W. V. O. (1981). *Mathematical logic* (1st ed., 1940). Cambridge: Harvard University Press.
- Rini, A. A., & Cresswell, M. J. (2012). *The world-time parallel*. Cambridge: Cambridge University Press.
- Savitt, S. F. (2002). On absolute becoming and the myth of passage. In C. Callender (Ed.), *Time, reality and experience* (pp. 153–167). Cambridge: Cambridge University Press.
- Savitt, S. F. (2006). Presentism and eternalism in perspective. In D. Dieks (Ed.), *Philosophy and foundations of physics: The ontology of spacetime* (pp. 111–128). Amsterdam: Elsevier.
- Scanlon, T. M. (2014). *Being realist about reasons*. Oxford: Oxford University Press.
- Sider, T. (2001). *Four-dimensionalism: An ontology of persistence and time*. Oxford: Oxford University Press.
- Sider, T. (2006). Quantifiers and temporal ontology. *Mind*, 115(457), 75–97.
- Sider, T. (2011). *Writing the book of the world*. Oxford: Oxford University Press.
- Spencer, J. (2012). Ways of being. *Philosophy Compass*, 7(12), 910–918.
- Stoneham, T. (2009). Time and truth: The presentism–eternalism debate. *Philosophy*, 84(2), 201–218.
- Tallant, J. C. (2014). Defining existence presentism. *Erkenntnis*, 79(3), 479–501.
- Torrenzo, G. (2010). Time, context, and cross-temporal claims. *Philosophia*, 38(29), 281–296.

- Torrenzo, G. (2012). Time and simple existence. *Metaphysica*, 13(2), 125–130.
- van Inwagen, P. (2009). Being, existence, and ontological commitment. In D. J. Chalmers, D. Manley, & R. Wassermann (Eds.), *Metametaphysics: New essays on the foundations of ontology* (pp. 472–506). Oxford: Oxford University Press.
- Williams, C. (1996). The metaphysics of A- and B-time. *The Philosophical Quarterly*, 73, 379–393.
- Williamson, T. (2002). Necessary existents. In A. O’Hear (Ed.), *Royal institute of philosophy supplement* (pp. 269–287). Cambridge: Cambridge University Press.
- Wüthrich, C. (2013). The fate of presentism in modern physics. In R. Ciuni, K. Miller, & G. Torrenzo (Eds.), *New papers on the present: Focus on presentism* (pp. 91–131). München: Philosophia Verlag.
- Zimmerman, D. W. (1998). Temporary intrinsics and presentism. In P. van Inwagen & D. W. Zimmerman (Eds.), *Metaphysics: The big questions* (pp. 206–219). Oxford: Blackwell Publishers.
- Zimmerman, D. W. (2008). The privileged present: defending an “A-theory” of time. In T. Sider, J. Hawthorne, & D. W. Zimmerman (Eds.), *Contemporary debates in metaphysics* (pp. 211–225). Oxford: Blackwell.

Publisher’s Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.