

# Extensionalism, Temporal Ontology, and a Novel Compatibility Problem

*Ernesto Graziani*

*University of Macerata*

## *Abstract*

Extensionalism is, roughly, the view that perception occurs in episodes that are temporally extended (and thus capable of accommodating in their entirety phenomena taking a nonzero lapse of time to occur). This view is widely acknowledged to be incompatible with thin presentism, the second most popular position in temporal ontology. In this paper, I argue that extensionalism is also incompatible with several other positions in temporal ontology, namely those positing the existence of non-present times that host sentience—positions I collectively refer to as the *sentient non-present view*. Most notably, extensionalism proves to be incompatible with B-theoretical eternalism, which is the most popular position in temporal ontology.

*Keywords:* Time, Phenomenal present, Extensionalism, Temporal ontology, B-theoretical eternalism.

## 1. Introduction

One of the most prominent positions within the debate on temporal perception is *extensionalism*, a view roughly positing that perception occurs in episodes that are temporally extended and thus capable of accommodating in their entirety phenomena taking a nonzero lapse of time to occur. The debate on temporal perception intersects significantly with temporal ontology, the philosophical inquiry into the ontic status of the past and the future. In particular, it has been argued that extensionalism is incompatible with thin presentism, which is the second most prevalent position in temporal ontology.<sup>1</sup> However, it has largely gone unnoticed that extensionalism also has a compatibility issue with several other views in temporal ontology, most notably B-theoretical eternalism, which is the most widely accepted view in temporal ontology. The purpose of this paper is to bring this latter problem of compatibility to light. The paper is organised as follows: §2 describes extensionalism in more detail; §3 provides an overview of positions in temporal

<sup>1</sup> Details and references regarding thin presentism and other common views in temporal ontology will be provided in §3 of this paper.

ontology; §4 shows how the new compatibility problem arises; §5 addresses some objections raised by anonymous reviewers; §6 concludes.

## 2. Extensionalism

In *perceptual experience*, two basic components are to be distinguished: the *perceptual act*, which is the very act of perceiving, and the *perceptual content* of the act, which is what we are directly conscious of while perceiving. Here, the term ‘perceptual content’ is to be understood as theoretically neutral, allowing for specification according to one’s favoured view about the nature of perception. For example, those favouring representationalism will take perceptual content to be a representation within the perceiver’s mind, while those favouring direct realism will regard it as coinciding with the external objects or events that are perceived. Let us call the *phenomenal present* the entire perceptual content that is given in our perceptual experience *all at once in a phenomenal sense*, meaning that its sub-contents are *phenomenally co-present* with each other or, in other words, *appear* all together *in a phenomenal sense* (though not necessarily also in a temporal sense, i.e., as simultaneous); and let us call our act of perceiving consisting in having a single phenomenal present the *maximal experience*. Based on these notions, extensionalism can be characterised as the conjunction of three theses.

(I) *Apparent temporal extension (phenomenological thesis)*: Our phenomenal present *appears* to be extended through time, i.e., it exhibits a property of *phenomenal*, or *apparent*, temporal extension. In more detail: our phenomenal present is composed of a series of *phenomenal* temporal parts that *appear* to be non-simultaneous with each other, i.e., they are in a relation of *phenomenal diachronicity* to each other; and this, taken together with the claim that these phenomenal temporal parts are also *phenomenally co-present* (as required by the definition of phenomenal present), implies that these phenomenal temporal parts collectively exhibit a property of *apparent*, or *phenomenal*, temporal extension. It should be noted that the possession of this property entails that temporally non-adjacent phenomenal temporal parts within a single phenomenal present appear temporally distant from each other, i.e., they are in a relation of *phenomenal temporal distance*. This apparently temporally extended perceptual content is also famously known as the *specious present*. Although a precise and reliable experimental estimate of the apparent temporal extension of the specious present remains elusive (see Dainton 2017b: §2 for a discussion of the various attempts to this end), it is commonly held to be approximately one second. So, for instance, although I cannot perceive on my laptop screen the word I type right *now* as phenomenally co-present with the flavour of the coffee I drank yesterday morning at breakfast, the phenomenological thesis of extensionalism posits that the appearing on my laptop screen of each letter I type is both phenomenally later than as well as phenomenally co-present with the appearance of the previous two or three letters: they fall within a single specious present.

(II) *Real temporal extension (metaphysical thesis)*: Our phenomenal present is *really* extended through time, as is the maximal experience of which it constitutes the content. This means that our maximal experience is composed of a series of *metaphysical* temporal parts—each having a *metaphysical* temporal part of the phenomenal present as content—which are *really* non-simultaneous with each other, i.e., they are in a relation of *real diachronicity* to each other, thus collectively forming a temporally extended segment of experience containing a temporally extended segment

of perceptual content. To better understand the notion of real temporal extension in this context, consider that it implies that any two temporally non-adjacent metaphysical temporal parts of a single specious present and the corresponding maximal experience are *really* temporally distant, i.e., they are in a relation of *real temporal distance* to each other.<sup>2</sup>

(III) *Appearance-reality explanatory link (explanation thesis)*: The apparent temporal extension of the content we receive through our perceptual experience is (best) explained by the real temporal extension of that content and the act containing it. So, according to extensionalism, our phenomenal present appears to be extended for roughly one second precisely because both it and our maximal experience are really extended for that period of time.

Several versions of extensionalism have been proposed (Foster 1991: Ch. 8; Dainton 2000: Ch. 7 and 8; Phillips 2010; Soteriou 2013: Ch. 4; Rashbrook 2013), which differ in how they elaborate the phenomenological and the metaphysical theses, and in how they specify the way subsequent phenomenal presents and maximal experiences connect with each other to form the stream of consciousness. We do not need to delve into these matters because they are not relevant to the compatibility problem that is the focus of this study.<sup>3</sup> Let us now turn, then, to temporal ontology.

### 3. Views in Temporal Ontology

The central issue of temporal ontology is whether non-present (temporal) entities, i.e., past entities and future ones, tenselessly exist (in what follows, the adverb ‘tenselessly’ will be omitted, except where the context may be not sufficient to convey the intended meaning of ‘exist’ or other predicates).<sup>4</sup> This debate includes three main ontological views: presentism, no-futurism, and eternalism. According to *presentism*, past entities and future ones do not exist, that is, only the present exists. For the purposes of this paper, it is important to distinguish between two forms of presentism: *thin* presentism, according to which the metaphysical present has no temporal extension, i.e., it is strictly instantaneous (Bourne 2006), and *thick* presentism, according to which the metaphysical present has a nonzero, albeit very short, temporal extension (Hestevold 2008). According to *no-futurism* (also known as *growing block theory* or *pastism*), in addition to present entities, past entities—or only certain kinds of past entities—exist, whereas future entities do not (Forrest 2004, Correia and Rosenkranz 2018). According to *eternalism*, in addition to present entities, both past entities and future entities—or only certain kinds of past and future entities—exist. Temporal ontology is closely tied to the debate on the passage of time: presentism and no-futurism are forms of the dynamic view of

<sup>2</sup> I take the distinction between phenomenal and metaphysical temporal parts from Benovsky (2013), who, however, provides a rather unconventional interpretation of extensionalism as a *purely* phenomenological theory, ultimately reducing it to what I have called the phenomenological thesis.

<sup>3</sup> For an in-depth overview of the debate on temporal perception, readers may refer to Dainton 2017a.

<sup>4</sup> Note that tenseless predication is sometimes also signalled by the adverb ‘simpliciter’. Readers of this paper are presumably already familiar with temporal ontology and the definitional issues that have been raised regarding it within the so-called triviality debate. Those needing further information on this debate and, more specifically, on tenseless predication may refer to Torrenzo 2012 and Graziani and Orilia 2021.

time, or A-theory, whereas eternalism can take dynamic forms (Schlesinger 1980; Smith 2002) as well as static ones. The latter include B-theoretical eternalism (or *block universe theory*), which orders times by the B-relation of *succession* (Mellor 1998); C-theoretical eternalism, which orders times exclusively by the C-relation of *temporal betweenness* (Farr 2020); and timeless eternalism, according to which times are not ordered (Barbour 1999).<sup>5</sup> For our purposes, it is useful to group the various positions within temporal ontology into two main views: the *sentient non-present view*, according to which sentience can exist outside the present (in the past or in both the past and the future); and the *insentient non-present view*, according to which sentience cannot exist outside the present (please bear with these clumsy labels, as I could not find any more graceful ones). The sentient non-present view encompasses all forms of static eternalism, but also Schlesinger (1980)'s form of dynamic eternalism (*moving spotlight theory*), and the form of no-futurism proposed by Correia and Rosenkranz (2018). The insentient non-present view of course includes presentism in both its thin and thick forms (if the past and the future do not exist, neither can past or future sentience); but it also includes other positions in temporal ontology, such as Forrest (2004)'s *dead past no-futurism*, according to which what is no longer present exists but has been deprived of all mental activity, thus becoming, in a sense, dead; and Smith (2002)'s *degree presentism*, which despite its name can be seen as a form of eternalism since it posits that entities that are no longer, or not yet, present do in fact exist but are less real in the sense that they have lost, or have not yet acquired, those attributes that make things concrete (such as being constituted by a certain material, having a certain shape, having a certain mass, etc.) and thus presumably also those that render humans and other animals sentient.

#### 4. The Novel Compatibility Problem

Extensionalism is incompatible with thin presentism, and it is easy to see why: if all that exists in time is confined to the present time and the present time is an instant, i.e., it is temporally unextended, then nothing temporally extended could ever exist; consequently, there is no room—literally, no time—for a temporally extended phenomenal present and the corresponding maximal experience. In other words, a thin presentist universe is temporally unextended, and thus all that exists in it must be temporally unextended as well, including our phenomenal present and maximal experience (see Dorato 2015: §6; Dainton 2012: §5 and 2017: §7.2; Frischhut 2017). This problem—that our extensional phenomenal present and maximal experience are too thick for the temporal extension of the universe—does not arise in temporal ontologies that posit a world at least as temporally wide as the phenomenal present. Therefore, one might think that extensionalism is compatible, or easily reconcilable, with *all* temporal ontologies besides thin presentism. Extensionalism seems to be clearly compatible with all forms of static eternalism (B-theoretical, C-theoretical, and timeless), which do not admit a metaphysically privileged present in the first place; and it also seems compatible

<sup>5</sup> In all of its forms, the static view of time clearly implies eternalism: according to the static view, the present is not distinguished in any metaphysically significant way from the non-present, and *a fortiori* it is not distinguished in terms of existence; and since the present evidently exists, it follows that the past and the future do exist as well. Hence, endorsing any form of the static view necessarily entails an endorsement of eternalism.

with, or easily adaptable to, all dynamic ontologies: it initially seems that what is required is simply a temporally extended metaphysical present just wide enough to host our extensional phenomenal present and maximal experience. However, a closer examination reveals an additional issue with several of the options in temporal ontology, namely those classified under the sentient non-present view (while the various forms of the insentient non-present view avoid this issue). Let us see what the problem is.

In the sentient non-present view, past entities (in no-futurism), or both past and future entities (in eternalism), exist on a par with present ones. Put another way, a sentient non-present universe features a temporal dimension along the three spatial ones, thus constituting a gigantic spatiotemporal entity: this entity is extended not only spatially but also *temporally*, and its temporal extension encompasses not only the present but also the past (in no-futurism) or both the past and the future (in eternalism). Moreover, according to this view, non-present times that exist can contain experiences just like the present time; and given that there have been, and presumably there will be, experiences in our world, if our world aligns with the sentient non-present view, then non-present times that exist (past in no-futurism, both past and future in eternalism) *do contain* experiences. More precisely, any sentient being that is tenselessly conscious at some past or future time is tenselessly having *at that time* its own experience *of that time*. For example, in a sentient non-present universe, it would be true that just as I am tenselessly having my current experience at this moment, e.g., I am tenselessly seeing the letters I am typing appearing on my laptop screen, Julius Caesar is tenselessly having his own experience at some time that is earlier than, and approximately 2070 years distant from, this moment, e.g., he is tenselessly seeing his troops marching somewhere in Gaul.<sup>6</sup> Moreover, and most importantly, the same would apply to the various episodes of experiencing had *by any single sentient being* at different moments of its life in which it is tenselessly conscious. For example, in a sentient non-present universe, just as my present self is tenselessly having his present experience, one of my past selves is tenselessly having, at some past time, his own experience of that time, e.g., the sight of his left hand turning on this laptop. In fact, *each one* of my past conscious selves is tenselessly having at some past time his experience of that time. But then, in such a universe, *any non-instantaneous experience that tenselessly exists*—such as my experience from yesterday spanning from the moment I woke up until my first sip of coffee—has a real temporal extension exactly in the same sense that, according to extensionalism, our phenomenal present and maximal experience have a real temporal extension: in the sense of being a whole composed of a series of metaphysical temporal parts placed in a relation of *real diachronicity*. If this is the case, then any conscious being currently in the midst of an experience that began some time ago and will end some time from now is in effect having just one brief temporal part, the present one, of an experience that is *really temporally extended beyond the present time*, namely in the past (in no-futurism) or both in the past and the future (in eternalism). In fact, it even seems legitimate to regard all the experience that a conscious being tenselessly has as constituting one temporally extended experience stretching approximately

<sup>6</sup> As noted by one reviewer, the specifics of what it means to *have an experience at a time* will also vary depending on one's preferred view on persistence; however, these details are not relevant in the present context.

from its birth up to the present (in a no-futurist universe) or to its death (in an eternalist universe), albeit with countless interruptions primarily due to sleep.

Now, *if we adhere to the explanation thesis of extensionalism*, which posits that the apparent temporal extension of perceptual content is explained by the real temporal extension of both the perceptual content itself and the act containing it, then we immediately encounter a significant compatibility issue between extensionalism and the sentient non-present view: since any ongoing experience that began in the past and will end in the future is, along with its content, really temporally extended, such an experience must yield an *apparent temporal extension* stretching from the beginning of the experience up to the present moment (in no-futurism) or to the future end of the experience (in eternalism). In fact, all the perceptual contents an individual tenselessly has must collectively exhibit a *single birth-to-present* (in no-futurism) or *birth-to-death* (in eternalism) *temporal extension*. In other words, in a sentient non-present universe, one's current extensional specious present collapses into the totality of one's perceptual contents that tenselessly exist. Of course, this result is phenomenologically absurd: even if, as the phenomenological thesis of extensionalism has it, humans' phenomenal present appears to be temporally extended, it surely does not appear to extend widely enough to bring together perceptual contents separated by a temporal distance of, say, ten years, ten days or even ten seconds from one another. Instead, as mentioned in §2, the apparent breadth of the specious present is no greater than one second or so. Therefore, it must be the case that either the sentient non-present view is false or extensionalism—at least in its current forms—is false, or both are false. Philosophers who subscribe to both extensionalism and some form of the sentient non-present view are thus faced with the new challenge of *explaining the limited temporal extension* (of approximately one second) *of the phenomenal present*. In other words, they need to account for why, in a sentient non-present universe, all the perceptual contents a subject tenselessly has do not yield an apparent birth-to-present or birth-to-death (albeit discontinuous) temporal extension.

To better appreciate the nature of the problem, let us see why it does *not* emerge within the *insentient non-present view*. According to this view, experience tenselessly exists only in the present. This is either because only the present tenselessly exists, as in presentism, or because although non-present times tenselessly exist, they are devoid of mentality and host only physical entities, as in Forrest's dead past no-futurism, or only non-concrete entities, as in Smith's degree presentism. All forms of the insentient non-present view are A-theoretical and, as mentioned earlier in this section, fitting extensionalism into an A-theoretical framework requires assuming that the A-theoretical metaphysical present is *just* wide enough to contain the extensional phenomenal present. Such a requirement may be problematic, since the boundaries of the specious present may differ across sense modalities or vary according to subjective factors (see Dainton 2017b: §2) or even be blurred (see Rosselli 2018: §4 and Solomyak 2019: §4). In contrast, the boundaries of the A-theoretical metaphysical present are supposed to be universal and invariable. The key point in the context of the present discussion, however, is that according to the insentient non-present view, the perceptual act and its content have no real temporal extension beyond the metaphysical present, and consequently the explanation thesis applies only within the metaphysical present, preventing the unwelcome result of an apparent temporal extension stretching out far beyond the metaphysical present. In other words, the fact that experience has no real temporal extension beyond the metaphysical present offers an at least

*prima facie* reasonable explanation for why our experience does not exhibit an apparent temporal extension longer than the phenomenologically plausible size of approximately one second.

## 5. Addressing some Objections

In the previous section, I developed an argument showing that the conjunction of extensionalism and the sentient non-present view leads to a phenomenologically unacceptable outcome, thereby rendering the two views incompatible. In this section, I address three objections concerning my argument that were raised by anonymous reviewers.<sup>7</sup>

The first objection is that I somehow overlooked the fact that extensionalists do in fact limit the apparent temporal extension of the phenomenal present to roughly one second. For instance, according to Dainton's overlap approach, the stream of consciousness is formed by a series of partially overlapping specious presents, where the content of each individual specious present is unified by a relation of diachronic co-consciousness (a cross-time relation of phenomenal co-presence): Dainton stipulates that the diachronic co-consciousness relation is intransitive across different specious presents precisely to prevent all perceptual contents that form a stream of consciousness from being experienced together.

In response to this critique, I must stress that my argument does not intend to fault extensionalists for failing to explicitly *state* the limited length of the extensional phenomenal present (although earlier versions of my argument might have favoured this incorrect interpretation); instead, the aim of my argument is to highlight a specific problem regarding extensionalism that arises exclusively *within a sentient non-present view*. It should be acknowledged that some extensionalists, such as Dainton himself, have touched upon aspects related to the problem I have identified; however, as to my knowledge, they have not fully recognised or addressed *this* problem. Regarding Dainton's overlap approach in particular, two points should be noted. First, Dainton's stipulation of intransitivity is not put forth as a solution to the compatibility issue I have raised, but simply as a theoretical constraint driven by a general need for phenomenological adequacy; for example, he writes: "That co-consciousness is only transitive over short distances of time is a phenomenological fact that simply has to be accepted" (Dainton 2000: 168). Second, and most importantly, the mere *stipulation* that the diachronic co-consciousness relation is intransitive is not a move that can help solve the compatibility problem that I identify. In fact, in light of this problem, the very assumption of the intransitivity of the diachronic co-consciousness relation becomes something that requires explanation.

A second objection against my argument is that it relies on a misunderstanding of the primary theoretical role of extensionalism. My argument aims at showing that, within a sentient non-present world, the supposedly one-second-long apparent temporal extension of the extensional specious present collapses into an exceedingly long apparent temporal extension; and one may get the impression that to achieve this result, I take extensionalism to be a view addressing the issue of what unifies the stream of consciousness. Such an interpretation of extensionalism would indeed be incorrect, because extensionalism is exclusively concerned

<sup>7</sup> The first objection was raised by a reviewer for another journal, the other two by a reviewer for this journal.

with accounting for our ability to directly perceive (directly, i.e., without the involvement of memory) temporal phenomena that take a nonzero lapse of time to occur, such as a traffic light changing from red to green or a leaf falling from a tree branch. As hinted at in §2 and observed in the discussion of Dainton's view, extensionalism may be combined with approaches that address the issue of what unifies the stream of consciousness; however, extensionalism *per se* is not supposed to be concerned with this issue (see for example Hoerl 2013).

Admittedly, the phenomenologically inadequate result highlighted in my argument could also be aptly described as a collapse of the extensional specious present into the entire stream of consciousness; however, this result is not reached by invoking considerations about what unifies the stream of consciousness (thereby mischaracterising extensionalism as a theory concerned with this issue); rather, it is reached by arguing that, within a sentient non-present universe, the explanatory link between real and apparent temporal extension must be taken to apply not only to the one second or so of the specious present but indeed to the whole stream of consciousness. To better understand how the compatibility issue I have highlighted is independent of the issue of what unifies the stream of consciousness, consider that the former arises even for a subject lacking anything like a unified stream of consciousness: for example, we might imagine a hypothetical creature with an intermittent mental life continuously alternating between one-second states of consciousness and unconsciousness: such a creature would never experience a ten-minutes-long *unified* stream of consciousness, and yet it would still, according to my argument, experience an apparent temporal extension, albeit discontinuous (due to the unconscious intervals).

A third objection is that my argument exploits a type of symmetry between present and non-present that exists in the static view of time (B-theoretical, C-theoretical, and timeless eternalism) but not in the other theories classified under the sentient non-present view, all of which are A-theoretical or dynamic in character; consequently, the actual scope of my argument turns out to be narrower than initially declared: it is only the static view of time, not the sentient non-present view in its entirety, that is incompatible with extensionalism.

Indeed, according to all forms of the A-theory, present experiences are *metaphysically* privileged over past or future ones, although not necessarily in terms of existence: for instance, in no-futurism, past experiences exist on a par with that of the present, but only the latter is on the temporal edge of the growing block; in the moving spotlight theory, past and future experiences exist like that of the present, but only the present experience possesses the irreducible A-property of presentness. In all forms of the A-theory, there is some metaphysical asymmetry between the present experience and non-present ones. Such metaphysical asymmetries, however, are not relevant to my argument; what matters to my argument is solely the *subjective* or *introspectively detectable* character of experience, and in this regard, the A-theoretical forms of the sentient non-present view, like its static forms, do not exhibit any asymmetry between the present experience and experiences that tenselessly exist in non-present times (past times in no-futurism, both past and future times in the moving spotlight theory). In both no-futurism and the moving spotlight theory there is no subjective difference between the experience I am having now and the one that is tenselessly had by a past self of mine two minutes ago. Put differently, there is no subjective difference between the experience one of my past selves is tenselessly having at a past time and the experience



it had while that time was objectively present (indeed, these experiences are one and the same experience, merely shifted in temporal location).

## 6. Conclusion

Unless a credible explanation for the actual temporal length of the extensional phenomenal present is provided, extensionalism must be deemed incompatible with the sentient non-present view. This is particularly noteworthy given that the sentient non-present view includes B-theoretical eternalism, which is the most prevalent position in temporal ontology. This new compatibility problem adds to the already widely acknowledged compatibility problem between extensionalism and thin presentism, which is the second most widely held position in temporal ontology. Of course, extensionalists are free to endorse thick presentism or other forms of the insentient non-present view, such as dead past no-futurism or degree presentism, provided these are coupled with the assumption of a temporally thick metaphysical present; however, most philosophers of time do not consider these very palatable options. Thus, as for the debate about temporal perception, extensionalists find themselves in a challenging predicament. As for temporal ontology, the new compatibility problem could be seen as detrimental to the various positions within the sentient non-present view, since it deprives them of a significant comparative advantage over thin presentism. However, this assessment of the dialectical situation in temporal ontology might appear unbalanced, especially with regard to B-theoretical eternalism. Indeed, one may well think that B-theoretical eternalism is much more robustly supported than extensionalism and thus that if the two prove to be incompatible, then this poses a greater challenge for extensionalism than for B-theoretical eternalism.<sup>8</sup>

## References

- Barbour, J., 1999. *The end of time*. Oxford: Oxford University Press.
- Benovsky, J., 2013. The present vs. the specious present. *Review of philosophy and psychology*, 4(2), 193–203.
- Bourne, C., 2006. *A future for presentism*. Oxford: Oxford University Press.
- Correia, F. and Rosenkranz, S., 2018. *Nothing to come*. Cham: Springer.
- Dainton, B., 2000. *Stream of consciousness: union and continuity in conscious experience*. New York: Routledge.
- Dainton, B., 2011. Time, passage, and immediate experience. In: C. Callender, ed. *The Oxford handbook of philosophy of time*. Oxford: Oxford University Press, 282–419.
- Dainton, B., 2012. Time and temporal experience. In: A. Bardon, ed. *The future of the philosophy of time*. London: Routledge, 123–148.
- Dainton, B., 2017a. Temporal consciousness. In: E. Zalta, ed. *The Stanford encyclopedia of philosophy*, Spring 2023 Edition.

<sup>8</sup> I wish to thank the anonymous reviewers who read earlier versions of this work and helped me improve it with their valuable suggestions. This work was supported by the Italian Ministry of Education, University and Research through the PRIN 2017 project “The Manifest Image and the Scientific Image” prot. 2017ZNNW7F\_004.

- Dainton, B., 2017b. The specious present: further Issues. In: E. Zalta, ed. *The Stanford encyclopedia of philosophy*, Spring 2023 Edition.
- Dorato, M., 2015. Presentism and the experience of the present. *Topoi*, 34(1), 265–275.
- Farr, M., 2020. C-theories of time: on the adirectionality of time. *Philosophy compass*, 12, 1–17.
- Forrest, P., 2004. The real but dead past: a Reply to Braddon-Mitchell. *Analysis*, 64(4), 358–362.
- Foster, J., 1991. *The immaterial self: a defence of the Cartesian dualist conception of the mind*. New York: Routledge.
- Frischhut, A., 2017. Presentism and temporal experience. In: I.B. Phillips, ed. *The Routledge handbook of philosophy of temporal experience*. New York: Routledge, 249–261.
- Hestevold, H.S., 2008. Presentism: through thick and thin. *Pacific philosophical quarterly*, 89(3), 325–347.
- Hoerl, C., 2013. A Succession of feelings, in and of itself, is not a feeling of succession. *Mind*, 122(486), 373–417.
- Mellor, D.H., 1998. *Real time II*. London: Routledge.
- Phillips, I., 2010. Perceiving temporal properties. *European journal of philosophy*, 18(2), 176–202.
- Rashbrook, O., 2013. An appearance of succession requires a succession of appearances. *Philosophy and phenomenological research*, 87(3), 584–610.
- Rosselli, A., 2018. How long is the now? A new perspective on the specious present. *Disputatio*, 10(49), 119–140.
- Schlesinger, G.N., 1980. *Aspects of time*. Indianapolis: Hackett.
- Smith, Q., 2002. Time and degrees of existence: a theory of “Degree Presentism”. In: C. Callender, ed. *Time, reality and experience*. Cambridge: Cambridge University Press, 119–136.
- Solomyak, O., 2019. Presentism and the specious present: from temporal experience to meta-metaphysics. *Dialectica*, 73(1-2), 247–266.
- Soteriou, M., 2013. *The mind’s construction: the ontology of mind and mental action*. Oxford: Oxford University Press.