



Explanation, persistence, and location

(*Explicación, persistencia y localización*)

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ABSTRACT: According to the “received view” the disagreement between endurantism and perdurantism is ontological and concerns the existence of temporal parts of continuants. In a recent paper, Wasserman (2016) argues that the ontological conception of these theories does not address the crucial point: *explaining the way things persist*. According to Wasserman, perdurantism is not just the view that things have temporal parts; it is the view that things persist by (or in virtue of) having temporal parts. Moreover, in the last decade an alternative understanding of the dispute between endurantism and perdurantism, the so called “locative turn”, has led to an understanding of these two theories as concerning crucially locational rather than mereological notions. Our main aim in this paper is to bring together those two revisionary approaches to the received view, and show how they can enrich each other and open up further dimensions of the debate. Finally in the last section we focus on some of the non-standard accounts of persistence and location that arise from this approach, such as “autonomism of persistence and location” and “reverse locational endurantism/perdurantism”.

KEYWORDS. persistence; perdurantism/endurantism; uni-locationism/multi-locationism; temporal parts; location; explanation.

RESUMEN: De acuerdo con la «concepción heredada», el desacuerdo entre el endurantismo y el perdurantismo es ontológico y concierne la existencia de partes temporales de los continuantes. En un artículo reciente, Wasserman (2016) argumenta que la concepción ontológica de estas teorías no aborda un punto crucial: explicar la manera como las cosas persisten. De acuerdo con Wasserman, el perdurantismo no sólo acepta que las cosas tienen partes temporales; también afirma que las cosas persisten por (o en virtud de) tener partes temporales. Además, en la última década una comprensión alternativa de la disputa entre endurantismo y perdurantismo, el llamado «giro locativo», ha llevado a una comprensión de estas dos teorías como involucrando crucialmente nociones locativas antes que merológicas. Nuestro objetivo en este artículo es unir estas dos aproximaciones revisionistas con la concepción heredada, y mostrar como pueden enriquecerse mutuamente y abrir nuevas dimensiones en el debate. Finalmente, en la última sección ponemos el foco en algunas aproximaciones no estándares que surgen de esta perspectiva, como el «autonomismo de persistencia y localización» y el «endurantismo/perdurantismo locativo inverso».

PALABRAS CLAVE: persistencia; perdurantismo/endurantismo; uni-locativismo/multi-locativismo; partes temporales; ubicación; explicación.

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1. *Ontology, explanation, and location*

The debate between perdurantism and endurantism has been one of the most prominent debates in contemporary metaphysics, one which has given rise to a huge literature, concerning not only which contendants is on the right side, but also how the dispute itself should be conceived.¹ In what follows, we focus on the second kind of concern. According to what is the “received view” of the distinction between endurantism and perdurantism, the disagreement between the two parties is ontological and has to do with the existence of temporal parts of continuants.² Perdurantism is the view that continuants have temporal parts, whereas endurantism is the negation of perdurantism. In a recent paper, Wasserman (2016) has challenged the received view, and claimed that it is actually a misreading of Lewis’ original insight. The point is not merely an exegetical one; rather, there is a much more interesting way to understand the debate. According to what we could call the “ur-view”, we should give up the *ontological conception* of the endurantism/perdurantism distinction (exemplified by the question “are there temporal parts?”) in favor of what he calls the *explanatory conception*. In a nutshell, according to the ur-view, perdurantism is not just the thesis that things have temporal parts; it is the thesis that things persist *by (or in virtue of) having temporal parts*.³

Wasserman’s challenge to the received view is not the only one in the contemporary landscape. In the last decade an alternative understanding of the dispute has generated an independent literature. According to what can be called the *locative conception*,⁴ the distinction between endurantism and perdurantism concerns locational rather than mereological notions. The underlying idea is that persisting is a matter of *how* continuants are located in time, rather than a matter of whether they have temporal parts. Our main aim in this paper is to bring together both of these revisionary approaches to the received view and show how they can enrich each other. In sections 2 and 3, we frame the debate about persistence in locative terms and introduce the distinctions between multi-locationism and uni-locationism, and between three-dimensionalism and four-dimensionalism. In section 4, we consider the distinction between explanatory and non-explanatory claims of persistence, and then we draw some possible ways in which the distinction between perdurantism and endurantism can be framed in an explanatory way. Finally, in section 5, we consider some further non-standard accounts of persistence and location that arise from our reformulation.

¹ For recent overview see (Sider, 2008; Hawley, 2015; Magidor, 2016).

² A dispute is ontological when the parties disagree on the truth value of an existential claim. See inter alia (Hawley, 2015, section 2; Effingham, 2009, p. 301; Crisp, 2003, p. 216). In what follows, we use “continuants” as “material objects that persist in time”. As customary, we use the term “persist” as neutral between different accounts. Given that we are assuming an eternalist ontology, “persist” can be taken here as synonymous with “exist at various times” (cf. Lewis, 1986, p. 202).

³ On the explanatory role of metaphysics see also (Schaffer, 2009; Fine, 2012).

⁴ For discussion of “the locative turn” (Costa, 2017) of the debate about persistence, see (Hudson, 2001; Gilmore 2006, 2007, 2008; Sattig, 2006; Parsons, 2000, 2007).

2. *The locative turn*

According to a locative account, theories of persistence must be formulated in terms of the way objects are located in time (see Gilmore, 2006; 2008). When we move from the idea of a three-dimensional space to that of a four-dimensional spacetime, it is natural to expand the idea of location from the spatial case to the temporal (and spatiotemporal) ones. As the *exact spatial location* of a statue is the spatial region s where the statue perfectly fits and is the ‘shadow’ of the statue in substantival space (see Parsons, 2007, p. 203), the *exact temporal location* of an entity such as a football match is the 90 minutes interval of time $\Delta_{t_1-t_2}$ spanning from the beginning of the match at t_1 to its end at t_2 (set aside the 15 minutes pause between the first and the second half).⁵

Different theories of persistence emerge as soon as the temporal location of material objects that persist in time is considered. In fact, although it is commonly accepted that material objects are located in time, there is significant disagreement on the regions of time at which these objects are exactly located. On the one hand, some think that objects do not have a unique exact location, for they are located at several regions. According to this account, objects are *multi-located*, for they have several exact locations during their existence. Their exact locations are all and only the temporally *unextended* locations included in the interval of their existence, from their creation to their annihilation. Let o be a material object created at t_1 and destroyed at t_{10} . The exact locations of o are all the instants included between t_1 and t_{10} . This is the *multi-locationist* thesis. On the other hand, some think that material objects have a unique exact temporal location. The exact temporal location of a material object persisting from t_1 to t_{10} , is the *interval* of its persistence. In other words, the exact location of an object o created at t_1 and destroyed at t_{10} is the temporally extended region $\Delta_{t_1-t_{10}}$ that has as boundaries o 's creation and o 's destruction. This is the *uni-locationist* thesis.

The locative turn of the endurantism/perdurantism debate consists in considering “locative and mereological issues as related but separated” (Costa, 2017, p. 57). Thus, the opposition between the endurantist and the perdurantist should not be seen as confined to a disagreement as to whether continuants have temporal parts, but also as to whether continuants are exactly uni- or multi-located in time. This seems to be the idea behind Gilmore’s distinction between locational endurantism and locational perdurantism:

[...] the dispute between locational endurantism and perdurantism emerges as a genuine issue, entirely orthogonal to the debate about temporal parts, at least from a narrowly logical point of view. Say that a thing locationally endures just in case it persists and exactly occupies only achronal [instantaneous] regions, and say that a thing locationally perdures just in case it persists and exactly occupies one and only one region. [...] Then locational endurantism can be stated as the view that all persisting material objects locationally endure, and locational perdurantism as the view that all persisting material objects locationally perdure. (Gilmore 2008, p. 1229)

Appealing to locational theses (thereby abandoning the received view) can help answer charges of obscurity that have been aimed at the endurantism/perdurantism distinction

⁵ On exact location, cf. (Parsons 2007, p. 203; Gilmore 2008, p. 1128; Costa 2017, p. 59). In what follows, we will not be concerned with spatiotemporal regions, but only temporal regions.

when formulated merely in mereological terms. The notion of *temporal part*⁶ as applied to continuants, and the notion of *being wholly present* have been both criticised for being obscure. Because of this, many authors, on both sides, have showed sympathy towards the purely negative characterisation of endurantism as the negation of perdurantism.⁷ Characterising endurantism and perdurantism through their commitments to distinctive theses about location, in contrast, is a way to unpack both accounts of persistence in a positive way. We will come back to this aspect of the locational formulation at the end of section 4.

3. *The temporal shape of continuants*

Mereological and locational issues are not the only features that can be exploited to characterise the nature of persistence. The temporal shape of continuants, namely whether they are temporally extended is a related point at issue. Three-dimensionalism is the view that things are not temporally extended, whereas four-dimensionalism is the view that things are temporally extended. Traditionally, endurantism is thought of as a three-dimensionalist view of persisting objects, and perdurantism as a four-dimensionalist view. The reason why the labels have been used almost interchangeably is that three-dimensionalism and four-dimensionalism have been taken as important, characterising consequences of endurantism and perdurantism respectively. However, the relation among issues about temporal parts, issues about temporal shape, and issues about temporal location is a complex one.⁸ To keep things simple, we will assume that having a three dimensional spatial shape entails lacking temporal parts.⁹ However, we won't assume the converse entailment. There are various reasons for rejecting the claim that lacking temporal parts entails being three-dimensional. We want to warrant the possibility that continuants are extended *simples*, namely four-dimensional entities that lack temporal parts (see our brief discussion of simplism below). Besides, multi-locationism and uni-locationism *per se* do not entail constraints on the temporal shape of continuants: temporally extended entities can be multi-located, and temporally instantaneous entities can be uni-located. It follows that both multi-locationism and uni-locationism can be combined with three conjunctions of claims: (i) three-dimensionalism and no temporal parts, (ii) four-dimensionalism and temporal

⁶ Against the very notion of temporal parts, see (Thomson, 1983; Van Inwagen, 2000; Lowe 2009, in particular pp. 132-7).

⁷ Besides (Wasserman, 2016, p. 247), see (McCall and Lowe 2006, p. 427; McCall and Lowe, 2009), and —to a certain extent— (Markosian, 1994). Notice that even if the notion of being exactly located at a temporal region *per se* is arguably not more illuminating than the notion of being wholly present at a time, by appealing to a background theory of location (in which the notion of exact location is taken as primitive) we can provide positive characterizations of endurantism and perdurantism, rather than defining one as the negation of the other. *This* feature of the framework (not the notion of exact location *per se*) opens up the possibility of investigating further, more subtle distinctions. Thanks to an anonymous referee for pushing us to be more precise on this point.

⁸ See Calosi and Fano (2015) for a discussion on the interaction between different axioms and definitions concerning temporal parthood and location.

⁹ The entailment has been questioned, for instance by Gilmore (2008).

parts, (iii) four-dimensionalism and no temporal parts. Therefore, there are at least six positions in the logical space:

Multi-locationism and...

(M-i) ...three-dimensionalism and no temporal parts

(M-ii) ...four-dimensionalism and temporal parts

(M-iii) ...four-dimensionalism and no temporal parts

Uni-locationism and...

(U-i) ...three-dimensionalism and no temporal parts

(U-ii) ...four-dimensionalism and temporal parts

(U-iii) ...four-dimensionalism and no temporal parts

(M-i) seems to us the traditional way to understand endurantism, at least if we take “being wholly present at distinct instants” as synonymous with “being entirely located at distinct instants”. (U-ii) seem to us the traditional way to understand perdurantism: continuants have temporal parts (and hence temporal extension) and a unique (spatio)temporal location. At least two of the other combinations listed above have been discussed in the literature on persistence. (U-i) is central to the so called *stage view*, which is often seen as an alternative to both endurantism and perdurantism. According to the stage view, continuants are instantaneous, three-dimensional entities that possess a unique temporal location. Even though such entities exist at only one instant, they persist by having *counterparts* located at different times.¹⁰ (U-iii) is central to the view called *simplism*. According to simplism, continuants are temporally extended but simple entities, that is they are extended through time but lack temporal parts.¹¹

Given the variety of options in the logical space,¹² one may wonder whether opting for characterizing the debate between endurantism and perdurantism as an opposition between one two sets of commitments rather than another is largely a matter of terminology. For instance, if endurantism is characterized by the commitment to the thesis that continuants have no temporal extension, then simplism cannot be seen as a variety of endurantism, contrary to what has been suggested.¹³ And if the stage view is a form of uni-locationism, but neither a form of endurantism nor of perdurantism, uni-locationism and four-dimensionalism are not as closely related as the locational turn seems to suggest (cf. Gilmore, 2008, p. 1229). In what follows we argue that the reasons to focus on one opposition rather than another are not, and should not be, merely terminological, but depend crucially on our explanatory aims.

¹⁰ See (Sider, 2001; Hawley, 2001). Stage theorists who accept unrestricted composition, also accept the existence of temporally extended entities. However, such entities do not fall under the sortals under which continuants ordinarily do, such as *person*, *animal*, *artifact*, etc.

¹¹ Simplism has been discussed in (Parsons, 2000; 2007).

¹² The two combinations of multi-location and four-dimensionalism are less likely to be seen as characterising view of persistence. (M-iii) can be seen as a view according to which continuants are made up of *temporally extended atoms* (maybe the size of Planck time?). (M-ii) seems to make sense if we understand continuants as gunky objects along the temporal dimension. We will not discuss those options in what follows.

¹³ For simplism as a form of endurantism, see (Costa, 2017, p. 63ff); for simplism as a form of perdurantism, see (Hofweber and Velleman, 2011).

4. Explanatory and non-explanatory claims

The moral to be drawn from the considerations we made in the previous sections is the following: there are at least three questions—(1) to (3) below—about continuants that can be addressed, depending on our focus of interest.

- (1) *How are continuants located in spacetime?*
- (2) *What is the temporal shape of continuants?*
- (3) *Do continuants have proper temporal parts?*¹⁴

Those questions are not only about different subject matters, but they also relate in different ways to question (4) below, which is the central question in the debate between endurantism and perdurantism, assuming with Wasserman that the core of the debate is *how to explain persistence*.

- (4) *How do continuants persist in time?*

In the rest of the paper, we will discuss the connection between (4) and (1), by comparing it with the connection between (4) and (3), as it has been discussed in Wasserman according to our reconstruction. We will leave the relation between (2) and (4) in the background.

As we have seen, Wasserman identifies the received view of the endurantism/perdurantism debate with an ontological disagreement over the existence of temporal parts of continuants. The possibility of an explanatory conception of perdurantism—as the thesis that continuants persist *in virtue of* having temporal parts—provides a reason to challenge the received view, in favour of what we have called the ur-view. In what follows we will argue that the ur-view is not the only viable alternative, but locational and extensional notions can be exploited similarly to how Wasserman uses mereological notions.

Following Wasserman, let us consider the distinction between an ontological and an explanatory conception of perdurantism as a specific case of a more general distinction—namely the distinction between a theory *about* something and a theory *of* something. On the one hand, the ontological conception of perdurantism is a theory *about* persistence, for it claims that given any continuant *x*, *x*'s persistence is always correlated with *x*'s having temporal parts (i.e. *x* persists if and only if *x* has temporal parts). More generally, a theory about persistence is a claim about persistence, which does not identify the facts in virtue of which persistence obtains. On the other hand, the explanatory conception of perdurantism is a theory *of* persistence, for it is the claim that given any continuant *x*, *x*'s persistence *is explained by* *x*'s having temporal parts (i.e. the fact that *x* persists depends on—or is grounded by—the fact that *x* has temporal parts). More generally, a theory of persistence is a non-causal explanation of persistence, which identifies the facts in virtue of which persistence obtains. As things stand, we can generalise Wasserman's dualism between ontological and explanatory claims about persistence into the broader distinction between *non-explanatory* and *explanatory* claims about persistence.

¹⁴ We say “proper temporal part” rather than (proper or improper) temporal part, because according to stage theorists (Lewis, 2001; Hawley, 2001) entities that are composed by temporal parts are *not* continuants; it is rather their instantaneous parts that persist by having temporal counterparts. Given that those parts have improper temporal parts (themselves), the view would count as a form of perdurantism without the restriction on the way we characterise the dispute.

The introduction of this more general distinction is motivated by the fact that not all non-explanatory claims about persistence are ontological and concern mereological notions, such as the ones answering question (3). Other claims about persistence are non-explanatory and qualify the way continuants are located in time, such as the ones answering questions (1). We will refer to these as “locational claims”. Still others are non-explanatory and concern the temporal shape of continuants, such as the ones answering questions (2). We will refer to these as “extension claims”.

Now, it seems to us terminologically convenient to use the labels “uni-locationism” and “multi-locationism” for locational claims that answer question (1), and “three-dimensionalism” and “four-dimensionalism” for extension claims that answer question (2). It also seems convenient to follow suit with the received view, and use “endurantism” and “perdurantism” for non-explanatory claims about the mereological constitution of continuants (i.e. the existence of temporal parts) that answer question (3). Besides those terminological stipulations, the following substantial claim can be put forth. Given that mereological composition is not the only relevant feature of continuants, but also location and temporal shape characterize the way they persist, all of (M-i) to (U-iii) above can be used (at least in principle) to provide potential answers to question (4). For this reason it is somewhat arbitrary to construe the explanatory reading of “endurantism” and “perdurantism” in solely mereological terms.

More precisely, our suggestion is to consider separately explanatory claims about persistence that use mereological, locational, and extensional notions respectively as *partial explanations* of persistence. By appealing to mereological notions to partially explain persistence - and then by answering question (4) by referring to the mereological structure of continuants, one can distinguish between the two explanatory specifications below, which are the ones discussed by Wassermann (we use the star “*” to signal explanatory claims *about persistence*).

Mereological Endurantism*: continuants persist *by being wholly present*¹⁵ at all and only the instants included in the interval of their persistence.

Mereological Perdurantism*: continuants persist *by having temporal parts* existing at all the instants included in the interval of their persistence.

By appealing to locational notions to partially explain persistence - and then by answering question (4) by referring to the way continuants are located in spacetime, one can distinguish between the two further explanatory specifications below.

Locational Endurantism*: continuants persist *by being exactly located at each instant in which they exist*.

Locational Perdurantism*: continuants persist *by having only one exact temporal location*.¹⁶

¹⁵ The notion of being wholly present is notoriously difficult to define in purely mereological terms. If it turns out to be impossible, the position is a non-starter.

¹⁶ Notice that an explanatory reading of locational endurantism and perdurantism does not correspond to the way endurantism and perdurantism have been defined in locative terms by Gilmore. See, for instance, the quote above, in which no explanatory claim emerges. Endurantism and perdurantism there are theories about persistence: things persist and either i) exactly occupy all and only the instants included in the interval of their persistence; or ii) exactly occupy the interval of their persistence (Gilmore, 2008, p. 1229).

And by appealing to the extensional notions to partially explain persistence—and then by answering question (4) by referring to the temporal shape of continuants, one can distinguish between the two further explanatory specifications below.

Extension Endurantism*: continuants persist *by having a three-dimensional shape*.

Extension Perdurantism*: continuants persist *by having a four-dimensional shape*.

Note that those are just *examples* of how locational claims may be used in theories of persistence, and we are aware that in their present formulations they are problematic.¹⁷ For instance, the appeal to *exact* location in Locational Endurantism*/Perdurantism* seems irrelevant to the issue of persistence. An object that is vaguely located could be said to persist in an endurantist way if it is multi-located at vaguely overlapping moments, and it could be said to persist in an perdurantist way by occupying an extended period of time with vague boundaries. We agree that exactness is (or may well be) irrelevant to the explanatory import of the theses. Our appeal to the notion of exact location is merely a consequence of the fact that the theory of location that we adopt in the background does not admit of vague location (although it could be easily extended to it, *if* vagueness of location is understood non-ontologically, as semantic or epistemic vagueness). However, the notion of temporal location is explanatorily relevant for persistence, and this should be enough—for the purpose of this paper—to use the two theses as illustrations of how locational claims can be exploited in a theory of persistence.

Something similar holds also for possible objection to the explanatory import of Extension Endurantism*/Perdurantism*. It seems clear that *mere* temporal shape is not *per se* sufficient to explain persistence, but is it entirely plausible to take it to be at least relevant for an explanation (remember, we are considering here *partial* explanations, not only full ones)? One may wonder whether things like economic crises or social trends, which seem to be entities that can (and often do) persist, could be said to persist in virtue of being three dimensional or four dimensional. It looks like the wrong kind of question to ask. Perhaps. However, it is also doubtful whether social trends and economic crises are *continuants* (i.e. material objects that persist in time, see footnote 2) to begin with. And even if they are continuants, it may not be an *ad hoc* manoeuvre to restrict our attention to continuants for which the question is relevant, such as prototypical ordinary, middle size objects.

The moral of these considerations is that the same strategy advanced by Wasserman for mereological notions only may be extended to locational and extensional notions too. In the next and last section, we will focus on the locational accounts of persistence. We finish this section with a point in favor of our approach.

For reasons that we have already hinted at the end of section 2, the intelligibility of mereological endurantism* is problematic, and many philosophers would agree that it should be substituted by the merely negative claim below:

Mereological Endurantism-Neg*: *it is not the case that* continuants persist by having temporal parts existing at all and only the instant included in the interval of their persistence.

By so doing, we move from an opposition between two explanatory claims, whose main operator is in both cases “by”, to an opposition between an explanatory claim (Mereologi-

¹⁷ Thanks to a useful referee for having pushed us to say more on this point.

cal Perdurantism*) and the negation of an explanatory claim, whose main operator is “it is not the case that” (Mereological Endurantism-Neg*). In order to gain in intelligibility, we lose the opportunity to present the opposition as an opposition between two theories of persistence. The opposition becomes rather one between a theory of persistence that uses the conceptual apparatus of mereology (Mereological Perdurantism*) and a *negative constraint* on any account of persistence using that conceptual apparatus. But this is a problem if we see the two theories as virtually *complete* explanations of persistence. Whereas, if Mereological Perdurantism* and Mereological Endurantism-Neg* are just two competing but *partial* explanatory claims about persistence, the asymmetry between one being a theory and the other the negation of a theory is no longer relevant. Both are constraints on further qualifications on how persistence happens, one of the two just happens to have a negative form.

5. *Non-standard accounts of persistence and location*

In dealing with the distinction between ontological and explanatory claims within a mereological account of theories of persistence, Wasserman acknowledges—although only briefly and in a footnote—the possibility of “mixed” views. One of these may accept, for instance, the existence of temporal parts, while denying the explanatory power of temporal parts in accounting for persistence.¹⁸ By considering the explanatory import of locational and extensional notions when it comes to persistence, a variety of non-standard options become available.

Consider again question (1), which we can re-label the “locational question”:

Locational question: How are continuants located in spacetime?

If the answer is, roughly,¹⁹ that continuants occupy many exact temporal locations in spacetime, we have multi-locationism. If it is that continuants occupy only one exact temporal location in spacetime, then we have uni-locationism. Supposing we give a uni-locationist answer to question (1), the following explanatory question follows:

Explanatory question (Uni-Loc): do continuants persist *by occupying only one exact (non-instantaneous) temporal location*?

A positive answer to this question leads to locational perdurantism*: continuants occupy only one exact temporal location and persist *by occupying* only one exact temporal location. What if a negative answer were given? One can accept uni-locationism, and hence that things do occupy only one exact temporal location, but deny that they persist in virtue of the fact that they occupy one exact temporal location. There are different ways to account for such a combination, depending on what the focus of the dispute is and how we intend the explanatory connection between persistence and location (if any).

¹⁸ Cf. (Wasserman, 2016, p. 245, fn. 7).

¹⁹ We need further restrictions to make the point more precise, such as that the mereological sum of those exact temporal locations must be topologically unscattered.

First, one may argue that persistence and location are not related by any explanatory relation. We call this thesis *autonomism of persistence and location*.²⁰ The result of combining uni-locationism with autonomism of persistence and location is a view according to which things occupy a unique temporal location, but the facts about their persistence are independent of the facts about their location. Notice that autonomism of persistence and location is compatible with mereological perdurantism*. Indeed, it looks as if the mereological perdurantist* should endorse it, on pain of having to accept either the over-determination of what persistence consists in, or the identification of the thesis that continuants have temporal parts with the thesis that they have only one exact location (which we have argued one should not). Second, one may argue that persistence and location are in fact related by an explanatory relation, but that the order of this relation is opposite to the one generally accepted: according to this view, things occupy a unique temporal location, and they do that *by persisting*. We call this position *reverse locational perdurantism*. Notice that reverse locational perdurantism is not a theory of persistence. Indeed, the focus of explanatory interest here has shifted from persistence to location. Reverse locational perdurantism is a claim about how things are located in time, one which relies on the explanatory content of a claim about persistence. In other words, it states that persistence is more fundamental than location, and what supports or grounds the fact that a continuant has a unique temporal location at a temporal interval is the fact that it persists in time.

The same strategy can be applied to a multi-locationist view, according to which things occupy several exact temporal locations. Consider the corresponding explanatory question.

Explanatory question (Multi-Loc): do continuants persist *by occupying several exact temporal locations*?

A positive answer leads to locational endurantism* according to which things occupy several exact temporal locations and persist by occupying several exact temporal locations. What if a negative answer were given? One can accept multi-locationism, and hence that continuants occupy many exact temporal locations, but she can deny that they persist in virtue of the fact that they occupy many exact temporal locations. Again, there are different ways to account for such a combination.

A multi-locationist, too, can accept autonomism of persistence and location: she can claim that continuants occupy several exact temporal locations, but that the facts about their persistence are independent from the facts about their location. This is a way for her to give a coherent negative answer to the explanatory question (Multi-Loc). Notice that the combination of autonomism of persistence and location and mereological endurantism-neg is consistent with various other theses about persistence (as it is with various other theses about the location of continuants) that resort to non-locational and non-mereological notions for their explanatory import (such as the existence of individual essences).²¹

²⁰ Notice that 'autonomism of persistence and location' is the view that persistence is autonomous *with respect to location*. Thus, the view does not entail (although it is compatible with) what we may call 'primitivism of persistence' - viz, the view to the effect that persistence is a primitive that cannot be further explained.

²¹ This is in line with Wasserman's idea that the denial of endurantism as a theory of persistence does not leave perdurantism as the only theory of persistence, for other options are available, e.g. arguing that

Finally, a multi-locationist can also give a negative answer to the explanatory question (Multi-Loc) by maintaining that the explanatory direction is the opposite to the one generally accepted. According to what we call *reverse locational endurantism*, continuants occupy several exact temporal locations, and they do that *by persisting*. Like reverse locational perdurantism, reverse locational endurantism is not a theory of persistence, since it focuses on location rather than persistence. More precisely, reverse locational endurantism is a claim about how things are located in time, which relies on the explanatory content of a claim about persistence. In other words, it states that persistence is more fundamental than location, and what supports or grounds the fact that a continuant is located at distinct instants is the fact that a continuant persists in time.

One may point out that the explanatory import of those two last positions is rather minimal. We agree that as partial explanations the theses may be trivial. It is however interesting to note that according to both reverse locational perdurantism and reverse locational endurantism facts about persistence are more fundamental than facts about location. Someone defending the former can even agree with someone defending the latter on what the facts about persistence are, and yet they can part company with respect to *what facts about locations* those facts about persistence explain. According to reverse locational perdurantism, persistence grounds the fact that objects have one exact temporal location, whereas according to reverse locational endurantism, persistence grounds the fact that objects have several exact temporal locations. Thus, the kind of disagreement they embed, as it were, is purely explanatory.

6. Conclusion

Our main aim in this paper has been to bring together the explanatory conception of theories of persistence advanced by Wasserman and the locative accounts of such theories widely discussed in the last decade, and show how they can enrich each other. We have argued that once we understand the locational form of the distinction as a disagreement as to how persistence should be explained, the dispute can be rephrased as a substantive disagreement about conflicting accounts of persistence - rather than as a disagreement about whether an account of persistence holds or not. Finally, we considered some non-standard accounts of persistence—such as “autonomism of persistence and location” and “reverse locational endurantism/perdurantism”—which have been overlooked in the contemporary debate.

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things persist in virtue of essences (or haecceity), or in virtue of having a unique “career” at different times, etc.; cf. (Wasserman, 2016, p. 248).

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