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Musical Perdurantism and the Problem of Intermittent Existence

Alexey Aliyev

University of Maryland

alexeyaliyev@gmail.com

Abstract

Recently, a number of philosophers have defended a novel, materialist view on the nature of musical works—musical perdurantism. According to this view, musical works are a peculiar kind of concreta, namely perduring mereological sums of performances and/or other concrete entities. One problem facing musical perdurantism stems from the thought that if this view is correct, then virtually no musical work can exist in a continuous, non-intermittent fashion. The aim of this paper is to expound this problem and show that it cannot be plausibly solved by a musical perdurantist.

Keywords

metaphysics of art – ontology of art – ontology of music – musical works – musical perdurantism

Introduction

For a long time, the thesis that musical works¹ cannot be identical to any spatiotemporal entities was accepted by most ontologists of music,² including Gregory Currie, Peter Kivy, Jerrold Levinson, Richard Wollheim, and Nicholas

1 In this paper, by “musical works,” I mean works of Western classical music.

2 Nelson Goodman and Eddy Zemach are notable exceptions. See Goodman 1968; Zemach 1966.

Wolterstorff.^{3, 4} In recent years, however, a number of musical ontologists have questioned this thesis by arguing in favor of a peculiar materialist view on the ontology of music—musical perdurantism.⁵ The main idea behind this view is that musical works are a kind of material concreta, namely perduring mereological sums, or fusions, of particular material constituents. According to one version of this view, defended by Ben Caplan, Carl Matheson, and Chris Tillman, the entities that serve as such constituents are performances.⁶ According to another version, advocated by Peter Alward, these entities are performances and work-initiating events.⁷

One problem facing musical perdurantism stems from the thought that if this view is correct, then virtually no musical work can exist in a temporally continuous, non-intermittent fashion (Tillman 2011, 24).⁸ My goal in this paper

3 See Currie 1989; Kivy 1983; Levinson 1980; Wollheim 1968; Wolterstorff 1975.

4 More recent proponents of the thesis that musical works cannot be identified with any spatiotemporal entities are, e.g., Stephen Davies, Julian Dodd, Guy Rohrbaugh, and Amie Thomasson. See Davies 2001; Dodd 2000; Rohrbaugh 2003; Thomasson 2004.

5 Other philosophers who have recently questioned the idea that musical works cannot be identified with any concrete entities (but have not argued in favor of musical perdurantism) are David Davies, Allan Hazlett, Christy Mag Uidhir, and Marcus Rossberg. See Davies 2004; Hazlett 2013; Mag Uidhir 2013; Rossberg 2013.

6 See Caplan and Matheson 2006, 2008; Tillman 2011.

7 See Alward 2004.

8 This is not the only problem facing musical perdurantism. Other problems include:

- *The Inheritance Problem*: Musical perdurantism has an odd consequence—that when a performance of a musical work contains a wrong note at t , the work itself has a wrong note at t (Kania 2010; Tillman and Spencer 2012, 252).
- *The Destructive Asymmetry Problem*: If musical perdurantism is correct, then musical works that do not have any constituents and will never have any constituents do not exist; however, such works do exist (Tillman 2011, 21–25).
- *The Modal Problem*: If musical perdurantism is correct, then musical works, being mereological sums of material constituents, could not have had more or fewer constituents than they actually have; however, in fact, musical works could have had more or fewer constituents than they actually have (Caplan and Matheson 2006, 65–69; Tillman 2011, 25–28).
- *The Perception Problem*: Musical perdurantism absurdly entails that a musical work cannot be heard in its entirety unless one listens to all of its performances (Caplan and Matheson 2006, 61–63; Dodd 2004, 353).
- *The Duration Problem*: Musical perdurantism has a false consequence—that the duration of *The Moonlight Sonata* is much longer than its actual duration (Kleinschmidt and Ross 2012, 131).
- *The Spatially Scattered Temporal Parts Problem*: According to musical perdurantism, when two performances of a musical work occur at t , each of these performances is a proper part of the work's temporal part that exists at t and that is identical to a fusion of these

is to expound this problem and show that it cannot be plausibly solved by a musical perdurantist. I begin with a brief characterization of musical perdurantism (Section 1). Then I present the aforementioned problem, which I call “the Problem of Intermittent Existence,” and examine possible perdurantist solutions to it (Section 2). Finally, I make a remark concerning the role that this problem plays in our assessment of the acceptability of musical perdurantism (Section 3).

1 Musical Perdurantism: A Brief Overview

In its most general form, musical perdurantism amounts to the conjunction of the following theses:

- *Identity*: Musical works are mereological sums (or fusions) of particular material constituents.
- *Persistence*: Musical works persist by perduring, that is, “by having different temporal parts at every time at which they exist” (Caplan and Matheson 2006, 60).

By “a temporal part of a musical work” is meant “something that exists only at [a particular time] t , that is a part of [the work] at t , and that overlaps⁹ at t everything that is a part of [the work] at t ” (Caplan and Matheson 2006, 60). In other words, a temporal part of a musical work at a certain time is all the “stuff,” or “matter,” of the work that is present at that time (the-work-as-it-exists-at- t).¹⁰ Analogously, a temporal part of my table at a particular moment is all the “matter” of the table that is present at this moment (the-table-as-it-exists-at- t), and a temporal part of myself at a particular moment is all the “matter” of me that exists at this moment (I-as-I-exist-at- t).¹¹

spatially scattered performances; however, “a performance of a musical work is always a temporal part of that work, never something that is merely a proper part of a spatially scattered temporal part of that work” (Caplan and Matheson 2006, 63–65; 2008, 82–85).

9 x overlaps y at t if and only if there is some z such that at t , z is a part of x and z is a part of y (Varzi 2015).

10 For a detailed account of the notion of a temporal part, see Hawley 2010.

11 As Caplan and Matheson point out, although musical perdurantism is not a common view on the nature of musical works, it is parallel to a relatively common view on the nature of ordinary non-art objects, such as tables, trees, animals, planets, and persons. According to this latter view, which may be called “perdurantism about ordinary objects,” an

Depending on what entities are considered to be constituents of musical works, there can be different versions of musical perdurantism. In the philosophical literature, two such versions have received support. One of these versions, defended by Caplan, Matheson, and Tillman,¹² is as follows:

- *Identity (a)*: Musical works are mereological sums of their *performances*;
- *Persistence*: Musical works persist by perduring, that is, by having distinct temporal parts at every time at which they exist.¹³

According to the second version, advocated by Alward:

- *Identity (b)*: Musical works are mereological sums of their *work-initiating events* and *performances*;
- *Persistence*: Musical works persist by perduring, that is, by having distinct temporal parts at every time at which they exist.¹⁴

“Work-initiating events” are defined by Alward as “more or less Levinson’s indicating acts—acts of producing an exemplar or a blueprint of a given S/PM [i.e., sound/performance-means] structure” (Alward 2004, 333). In other words, according to Alward, work-initiating events are particular events of performing musical works by the composer or of composing musical scores. It is worth noting that this is not the only possible understanding of work-initiating events. Thus, as Tillman and Spencer note, one might construe such events as certain mental acts—for example, acts involving the composer’s intentions.¹⁵

In what follows, I focus primarily on the versions of musical perdurantism defended by Caplan, Matheson, and Tillman (hereafter: Caplan et al.) and Alward. One reason for this is that, as far as I am aware, these are the only versions of musical perdurantism that are explicitly considered to be tenable by at least some philosophers. Another reason is that, *prima facie*, these versions

ordinary non-art object, for example, a table (a) is a mereological sum of its instantaneous temporal parts, namely instantaneous table-like entities existing at different times, and (b) persists by perduring, that is, by having distinct temporal parts at different times. (See Caplan and Matheson 2006, 61.)

12 Of course, that Caplan, Matheson, and Tillman *defend* the given version of musical perdurantism does not mean that they *endorse* this version or musical perdurantism in general. In fact, Tillman argues that there are musical ontologies that are preferable to musical perdurantism (see Tillman 2011).

13 See Caplan and Matheson 2006, 2008; Tillman 2011.

14 See Alward 2004.

15 See Tillman and Spencer 2012, 257.

seem to be the most intuitive and promising among all possible versions of musical perdurantism. I would like to note, however, that my focus is not *solely* on Alward's and Caplan et al.'s versions. In the process of evaluating these versions, I also examine some other possible versions.

2 The Problem of Intermittent Existence

Having characterized musical perdurantism, let us now consider the Problem of Intermittent Existence. Suppose musical perdurantism, in either Alward's or Caplan et al.'s version, is correct. Suppose next that there are temporal parts, P_1 and P_2 , of some musical work M . As is clear from the previous section, according to both Alward's and Caplan et al.'s versions of musical perdurantism, performances can be temporal parts of musical works. In light of this, let us suppose that the entities that serve as P_1 and P_2 are performances.¹⁶ Let us also suppose that P_1 is performed at t_1 and P_2 is performed at t_n and that t_1 and t_n are not consecutive: There is a time, t_m , that separates them. Finally, let us suppose that at t_m , (a) there are no entities that can (according to Alward's or Caplan et al.'s version) serve as temporal parts of M , as well as no playings of recordings of M or any other events that manifest M , but (b) there is an encoding of M —for example, a recording of M or a copy of M 's score. Now let us ask: At which of the times t_1 , t_m , and t_n does M exist? Before answering this question, we first need to specify the meaning of the word “exist.”

Following Tillman,¹⁷ we can identify two senses of this word.¹⁸ According to one of these senses, which may be called “unrestricted,” to say truthfully of an

16 A remark concerning the sense of the word “performance” used in this paper. This word can be used in a narrow (more common) or a broad (less common) sense. If it is used in the narrow sense, it refers to particular spatiotemporal events that involve executant artists performing musical works. If it is used in the broad sense, it refers not only to such events but also to events like playings of recordings of musical works. In this paper, the word “performance” is used in the narrow sense, since this is, most likely, the sense in which this word is used by Alward, Caplan, Matheson, and Tillman. It is worth noting, however, that nothing said in the paper depends on using “performance” in this sense, and so the reader is free to understand this word in whichever sense she prefers.

17 See Tillman 2011.

18 Perhaps, given Quine's plausible view about the univocality of “exist” (see Quine 1948), it would be more accurate to speak of different *uses*, rather than *senses*, of “exist.” However, for the sake of convenience, I speak of different senses of “exist.” If the reader finds my talk of different senses of “exist” inappropriate, she is free to paraphrase it in terms of uses of “exist.”

object o that it exists at x location/at x time/at x world is to say of o that “reality is not completely free of it” (Tillman 2011, 23). In this sense, Socrates exists in 2013, in 413 B.C., and at any other time (since reality is not completely free of him). According to the second sense, which may be called “restricted,” “to say truthfully of an object o that it exists at x location/at x time/at x world is to say of o that the relevant container (location, time, or world) is not completely free of o ” (Tillman 2011, 23; italics added).¹⁹ In this sense, Socrates does not exist in 2013 (since 2013 is completely free of him) but exists in 413 B.C. (since 413 B.C. is not completely free of him—he is still alive at that time).²⁰

So there are two senses of “exist”: the restricted and the unrestricted. The question posed above—At which of the times t_1 , t_m , and t_n does M exist? —employs the former, restricted, sense of “exist” and, as a result, can be paraphrased as follows: Which of the times t_1 , t_m , and t_n is/are not completely free of M ? Taking this into consideration, let us now answer this question.

Recall that according to one of the constitutive principles of musical perdurantism—*Persistence*—musical “works persist by perduring: that is, they exist at different times by having different temporal parts... at those times” (Caplan and Matheson 2008, 80). So, since, by assumption, M has temporal parts at t_1 and t_n , M perdures at t_1 and t_n . Meanwhile, if an entity perdures at a particular time, then it doubtless exists_r²¹ at this time. So M exists_r at t_1 and t_n .

What about t_m ? Does M exist_r at this time? According to *Persistence*, in order for a musical work to perdure at t , it must have a temporal part at t . By assumption, M does not have any temporal parts at t_m . So it does not perdure at t_m . Furthermore, it does not endure then either—for if it did, musical perdurantism would be false (remember that according to *Persistence*, musical works persist by *perduring*). Thus, M neither perdures nor endures at t_m . Meanwhile, as Aristotle points out, “if any composite thing is to be, it is necessary that while it is, all or some of its parts must be” (Aristotle 1995, 119). In other words, an entity exists_r at t only if it perdures (i.e., has a temporal part) or endures (i.e., is wholly located at some spatial region) at t . So M does not exist_r at t_m .

Thus, given that t_m follows t_1 and precedes t_n , M has “gappy” existence: It exists_r at t_1 , does not exist_r at t_m , and then exists_r again at t_n . However, this result is highly counterintuitive. First of all, we do not think that musical works

19 Note that the restricted sense of “exist” is compatible with eternalism.

20 The restricted sense of “exist” is close to the sense of “be present.” Saying that Socrates does not exist, in the restricted sense, in 2013 is similar to saying that he is not present at that time; saying that Socrates exists, in the restricted sense, in 413 B.C. is similar to saying that he is present at that time.

21 Subscript “r” stands for “in the restricted sense.”

pop in and out of existence_r; we think that they “exist[_r] uninterruptedly for a good stretch of time after the composer’s compositional activity” (Caplan and Matheson 2004, 128). Furthermore, according to one of our assumptions, there is an encoding of M at t_m . But if this is so, then it seems odd to believe that M does not exist_r at t_m . For, intuitively, if there is at least one encoding of a musical work at a particular time, then this work exists_r at that time. Imagine, for example, that as a result of a devastating war, virtually all embeddings—encodings and manifestations—of Jean Sibelius’s *Finlandia* have been destroyed; the only embedding that has survived is a particular encoding (say, a score or a recording). In this case, it is possible for *Finlandia* to be performed. (If it is the score that has survived, then one can use this score to produce a performance. And if the only encoding left is the recording, then one can use it to reproduce the recorded performance or to create a score and then, with the help of this score, generate a live performance.) But if this is so, if *Finlandia* can be performed, then it seems right to say that this work has not been destroyed. Since *Finlandia* is performable, it still exists_r.

The Problem of Intermittent Existence can be summarized as follows. According to musical perdurantism, in either Alward’s or Caplan et al.’s version, M is temporally discontinuous: It exists_r at t_1 , does not exist_r at t_m , and exists_r again at t_n . However, from an intuitive viewpoint, M exists_r at t_m and, hence, is temporally continuous.

What potential solutions to the Problem of Intermittent Existence are available to the musical perdurantist? One solution is to argue that in fact, our intuitions regarding the existence of M are not violated in the foregoing case, for M exists_u²² at t_m . However, this solution does not work. Surely, we hold that M exists_u at t_m —i.e., that it exists in the same sense in which Socrates exists in 2010. But at the same time, we also believe that M exists_r at t_m —i.e., that it exists at t_m in the same sense in which Socrates does not exist and Obama exists in 2010. Meanwhile, if this is so, then, contrary to what the solution being discussed states, our intuitions regarding the existence of M are violated even if M exists_u at t_m —they are violated by the fact that according to musical perdurantism, M does not exist_r at t_m .

Another possible solution available to the musical perdurantist is to bite the bullet and acknowledge that M does not exist_r at t_m . However, this solution is unappealing, since, as already mentioned, it forces the musical perdurantist to reject two powerful intuitions—that musical works do not pop in and out of existence_r at different times after the composer’s compositional activity and that they exist_r when their encodings exist_r.

22 Subscript “u” stands for “in the unrestricted sense.”

Here, one might ask: Why should the musical perdurantist (or anyone else for that matter) care about musical intuitions? Why can't he just ignore them? Before addressing this question, let us first clarify the notion of a musical intuition. By "a musical intuition" is meant a belief that satisfies two conditions. First, it is widely shared by members of the artworld, such as art critics, philosophers of art, artists, and ordinary people familiar with art. Second, it is rooted in our critical and appreciative practice—the set of our core "sayings" and "doings" with regard to musical works, where "sayings" "range over casual conversational remarks ('I'm going to hear the *Hammerklavier* tonight'), reactions ('That performance was so gentle, it hardly sounded like the *Hammerklavier*'), reviews, critical commentary" (Stecker 2009, 377), and art-theoretical analysis, and "doings" range over "composing, performing, arranging, transposing, recording, listening in concert, listening to recordings, and so on" (ibid.).

So why can't the musical perdurantist disregard musical intuitions? According to the above definition, our musical intuitions are rooted in and, hence, reflect our critical and appreciative practice. Meanwhile, as is generally agreed, musical works (as well as artworks in general) manifest themselves primarily, if not solely, through this practice.²³ So our intuitions provide a pre-theoretical source of information about musical works; they reveal what these works are at a superficial (intuitive) level. In light of this, it is clear that musical intuitions should, *in some respect*, be taken into consideration when evaluating musical ontologies. But what exactly is this respect? Surely, we should not regard musical intuitions as the ultimate criteria of evaluation—such that if a musical ontology does not accord with them, then it should be rejected. We would have reason to do this only if all of them were true. But we cannot be sure about this. As is well known, intuitions can be misleading. Furthermore, the set of our musical intuitions is, most likely, inconsistent, and if this is so, then some of them just cannot be true.

So in what sense should we take into account our musical intuitions when evaluating musical ontologies? I think we should do this in the following sense: We should give preference to those ontologies that, other things being equal, accord with our musical intuitions better than alternative ontologies. Thus, if there is an ontology that forces us to reject the intuitive view that musical works exist_r continuously and an ontology that, *ceteris paribus*, accords with this view, then we should prefer the latter ontology to the former one. Likewise, we should prefer an ontology that reflects the intuition that musical works exist_r when their encodings exist_r to any ontology that fails to reflect this intuition but is as good as the former ontology in all other respects.

23 For a detailed account of this, see Rohrbaugh 2013.

It should be underlined that this account of the role of musical intuitions is accepted by the main methodological approaches to musical ontology, namely descriptivism²⁴ and revisionism.²⁵ The key difference between these approaches concerns the question of what a proper musical ontology should describe. According to descriptivism, a proper musical ontology “should describe how we think about musical works” (Kania 2008, 426). Revisionism, on the other hand, states that such an ontology should describe how musical works “are independently of our thought about them” (ibid.).²⁶ But despite this difference, both descriptivism and revisionism agree that one of the desiderata for an acceptable ontology of musical works is the preservation of as many of our musical intuitions as possible. And this, in its turn, implies that according to both approaches, we should give preference to those ontologies that, other things being equal, accord with these intuitions better than other ontologies.

Now, given what has been said, it is clear why the musical perdurantist must try to preserve as many of our musical intuitions as possible. He must do this because the fact that musical perdurantism fails to accommodate particular musical intuitions weakens this view by making it less competitive with regard to alternative ontologies of musical works.

Thus, solving the Problem of Intermittent Existence by insisting that M does not exist_r at t_m is highly undesirable, since it requires us to reject two strong intuitions—that musical works do not pop in and out of existence_r at different times after the composer’s compositional activity and that they exist_r when their encodings exist_r. Is there some other, less costly way to solve this problem? The musical perdurantist could try to solve it by adopting the following principle:

- *Musical Existence_r*: If a musical work does not have a proper temporal part at t and if t is located between t_{start} and t_{end} (where t_{start} is the time the work first perdures and t_{end} is the time the work last perdures), then the work exists_r at t .

Clearly, if *Musical Existence_r* is correct, then M is a temporally continuous entity—it exists_r at t_m , as well as at any other moments after its first temporal part comes into existence_r and before its last temporal part goes out of

24 Proponents of descriptivism include Andrew Kania, Guy Rohrbaugh, and Amie Thomasson. See Kania 2008; Rohrbaugh 2003, 2013; Thomasson 2004, 2005.

25 A notable proponent of revisionism is Julian Dodd. See Dodd 2012.

26 For a detailed examination of descriptivism and revisionism, see Kania 2008 and Dodd 2012.

existence_r (including t_1 and t_n)—and, hence, the Problem of Intermittent Existence does not arise.²⁷ But why hold that *Musical Existence_r* is correct? The musical perdurantist can say that it is correct by virtue of the very fact that it helps to defuse the Problem of Intermittent Existence. However, by itself, such an answer is, of course, question-begging. A more promising answer, suggested by Tillman,²⁸ would be as follows. As is well known, between the atoms that compose a human body, there are regions that are not occupied by anything. Consider one of such regions, say, a region that is a sub-region of the region occupied by your heart. Since, by hypothesis, this region is empty, you do not exist_t there by having a part there. But do you exist_r there *simpliciter*? It seems plausible to answer “Yes.” Now, if this answer is correct, then it is possible for some entities to exist_r at certain spatial regions that are not occupied by any of their spatial parts. But if this is possible, then why can’t some entities exist_r at certain *temporal* regions that are not occupied by any of their temporal parts? In particular, why can’t musical works exist_r at such regions? Perhaps similar to how we exist_r at the empty regions between the atoms that compose our bodies, musical works exist_r at the “empty” times (that is, times that are not occupied by any temporal parts of these works) that are located between t_{start} and t_{end} .

According to the foregoing answer to the question “Why hold that *Musical Existence_r* is correct?,” we exist_r at certain empty spatial regions between the atoms that compose us. But how can anything exist_r at an *empty* spatial region? If a spatial region is empty, then it seems that, merely by virtue of what the word “empty” means, this region cannot contain anything.

Let us, however, grant, for the sake of argument, that objects can exist_r at empty spatial regions, including certain empty spatial regions between the atoms that compose our bodies. Now, if we grant that, then we must also assume that there are *certain conditions* that must be satisfied in order for an object to exist_r at an empty spatial region, since, we, of course, do not want to hold that an object can exist_r at such a region under any circumstances. What are these conditions? In my view, they are as follows:

1. The empty region, at least in part, borders the matter that constitutes the entity.
2. The empty region is so small that it is indiscernible by means of direct perception.

27 Thanks to Aidan Lyon for highlighting this possible way of avoiding the Problem of Intermittent Existence.

28 See Tillman 2011, 24.

That condition (1) must be met in order for an entity to exist_r at an empty region is, I think, pretty obvious. Consider, for instance, an empty region that has nothing to do with the matter that I am composed of—say, an empty region between the atoms that compose my dog. Surely, I do not exist_r at that region. Nor do I exist_r at any other empty region that does not, at least partly, border the matter that I am composed of. Similarly, it is clear, in my view, that in order for an entity to exist_r at an empty region, condition (2) must be satisfied. Consider a table with a perceptually discernible (say, one-inch) crack in its top. It seems perverse to claim that this table exists_r at the region occupied by this crack. Likewise, it does not seem right to say that a slice of Swiss cheese riddled with holes exists_r at the regions occupied by these holes (though, at the same time, it does seem correct to say that the identity of the slice depends, in part, on its “gappy” form).²⁹

Are the conditions analogous to conditions (1) and (2) satisfied in the case of *M*? Clearly, although an empty temporal region might border t_{start} or t_{end} , it does not have to border either of them; it can be located at a considerable temporal distance from them. We can assume, therefore, that the gap between *M*'s temporal parts P_1 and P_2 — t_m —does not border t_{start} or t_{end} . Thus, the analogue of condition (1) is not satisfied in *M*'s case. Now, what about the analogue of condition (2)? In order for it to be satisfied, temporal gaps between the temporal parts of *M* must be perceptually indiscernible—similar to how the gaps between the atoms of our bodies are perceptually indiscernible. However, in reality, these gaps may well be perceptually discernible; they may last for a week, or a month, or a year, or even longer. So we can assume that t_m is quite lengthy—say, that it has the duration of a month. Now, obviously, the analogue of condition (2) is not satisfied in the case of *M*.

Thus, neither the analogue of condition (1) nor the analogue of condition (2) is met. But if this is so, then since the features that are parallel to the features by virtue of which we exist_r at empty regions between the atoms that compose us are not present in the case of *M*, this case is not relevantly analogous to the case of us (or our bodies). And, therefore, it cannot be concluded that similar to how we exist_r at the empty regions between the atoms that compose us, musical works exist_r at “empty” times between t_{start} and t_{end} .

There seem to be no other potential considerations in favor of *Musical Existence*. At the same time, there is good reason to reject it. As mentioned above, if an entity (e.g., a table) involves an empty space that is perceptually discernible (e.g., a one-inch crack), then it is odd to maintain that this entity exists_r at this space. But why then think that if an entity has a temporal gap that is

29 Tillman 2011, 24.

located between t_{start} and t_{end} but does not border either of them and that is perceptually discernible (e.g., that lasts several days), then this entity exists_r at this gap? Given the spatial analogy, it is reasonable to believe the opposite—that an entity does not exist_r at any perceptually discernible temporal gap between t_{start} and t_{end} . But if this is so, then *Musical Existence_r* seems false.

Furthermore, consider the generalized version of *Musical Existence_r*:

- *Existence_r*: If x does not have a proper temporal part at t and if t is located between t_{start} and t_{end} (where t_{start} is the time x first perdures and t_{end} is the time x last perdures), then x exists_r at t .

This principle does not hold in the case of most (if not all) events. Take, for instance, a battle. Clearly, if it does not have temporal parts at a time that is located between t_{start} and t_{end} , then it does not exist_r at this time. Similarly, *Existence_r* does not hold in the case of objects. An apple lacking a temporal part at a time located between t_{start} and t_{end} does not exist_r at this time. But if *Existence_r* does not work in the case of ordinary events and objects, then why think that *Musical Existence_r* is correct? Why is it musical works, and not, say, flights or apples, that exist_r at times between t_{start} and t_{end} even if they do not have temporal parts at those times? The musical perdurantist must answer this question. But it is unclear how he could do this in a non-question-begging fashion.

So, while potential justifications of *Musical Existence_r* fail, there is good reason to reject it. As a result, all things considered, this principle is highly problematic and, hence, cannot serve as an acceptable tool for defusing the Problem of Intermittent Existence.

The musical perdurantist could also try to solve this problem by adopting the version of musical perdurantism according to which not only performances and work-initiating events but also *encodings*—concrete entities that encode musical works (e.g., recordings, copies of scores, particular brain states, etc.)—are constituents of a musical work. Surely, if this version is correct, then the Problem of Intermittent Existence does not arise. For, suppose that *Persistence* is true and that musical works are mereological fusions of their encodings, performances, and work-initiating events. Then, since there is an encoding of M at t_m ,³⁰ M has a temporal part at t_m and, hence, perdures at that time. Furthermore, there are performances of M at t_p and t_n , and so M perdures at those times as well. But if an entity perdures at t , then it exists_r at t . Consequently, M exists_r at t_p , t_m , and t_n and, hence, is temporally continuous.

30 Recall that the existence_r of this encoding at t_m is one of our assumptions.

However, there is good reason against the foregoing version of musical perdurantism. Suppose this version is correct. Then if one modifies an encoding of a musical work, one modifies a spatial part (hereafter: “part”) of this work. However, this consequence does not correspond to our musical intuitions. We believe that in most cases,³¹ modifying an encoding of a work does nothing to the work’s identity. Thus, if one tears up or burns a copy of the score of Beethoven’s Symphony No. 6, one will not thereby change a part of this symphony.

Furthermore, consider the following principle:

- *Modification:* For all x , if x ’s part is modified at t , then x is modified at t .

This principle seems uncontroversial. Thus, suppose that a part of a table is modified at t —for example, by making a crack in its top. Then it seems right to say that the table itself is modified at t . Likewise, if one of John’s parts is modified at t —for instance, by means of a surgery—then it is natural to say that John himself is modified. Suppose now that the version of musical perdurantism according to which encodings are constituents of musical works is correct. Then, given *Modification*, whenever one modifies an encoding of a musical work at t , one modifies the work at t . But this consequence, doubtless, contradicts our musical intuitions. We do not think that modifying an encoding of a musical work entails modifying the work itself. Thus, we find it mistaken to maintain that by modifying (say, by editing) a digital recording of Mozart’s Symphony No. 25 in *G* minor, one can modify the symphony itself.

Next, if the version of musical perdurantism according to which encodings are constituents of musical works is true, then whenever one sees/touches/smells/tastes an encoding of a musical work, one sees/touches/smells/tastes a part of this work. However, few (if any) people will agree that when they see/touch an encoding—say, a copy of the score of a musical work—they see/touch a part of this work. And even fewer people (if anyone at all) will accept that it is possible to taste/smell a part of a musical work—by tasting/smelling its encoding or by any other means. The claim that whenever one sees/touches/smells/tastes an encoding of a musical work, one sees/touches/smells/tastes a part of this work is thus highly counterintuitive.

In addition to this, the “touch” version of the foregoing objection can be strengthened as follows. It seems uncontroversial that when we touch an

31 The consensus is that under certain circumstances, a work can be modified by modifying its encoding. For example, it is generally agreed that a work can be modified in this way if the modification has the form of editing and is carried out by the author(s) of the work.

object, we often do not (and cannot) touch it in its entirety but, at the same time, can truthfully say that we touch *it*, and not just one or more of its parts. For instance, when we touch an apple, we touch its part, and not all of it. Nevertheless, we can truthfully say that we touch *it*, and not just one of its parts. This suggests that the following principle is true:

- *Touching*: For all x , to touch x , it is sufficient to touch a part of x .

Take now the version of musical perdurantism according to which encodings are constituents of musical works. Given *Touching*, this version entails that musical works can be touched by touching their encodings. But this entailment is incompatible with our musical intuitions. Surely, we do not think that we can touch Mozart's Symphony No. 25 in G minor by touching its recording or a copy of its score.

Taking into account the foregoing critique, the musical perdurantist could respond as follows: "Let us adopt the version of musical perdurantism according to which the *contents* of encodings (as opposed to encodings themselves), along with performances and work-initiating events, are constituents of musical works. In this case, we will be able to avoid the objections facing the previous solution. At the same time, we will solve the Problem of Intermittent Existence. For, suppose the foregoing version is true. Then, since there is an encoding of M , there is a particular content of this encoding at t_m and, hence, a temporal part of M at t_m . So M perdures at t_m . Furthermore, since there are performances of M at t_1 and t_n , M perdures at those times as well. But perdurance entails existence_r. So M exists_r at t_1 , t_m , and t_n and, as a result, is not temporally gappy." Like the previous solutions, this solution is problematic. It assumes that adopting the version of musical perdurantism according to which the contents of encodings are constituents of musical works makes it possible to avoid the problems that arise in the case of the version according to which encodings are such constituents. But this assumption is misguided. Suppose the version of musical perdurantism according to which the contents of encodings are constituents of musical works is correct. Then, since musical perdurantism, being a kind of musical materialism, presupposes that the entities that can serve as constituents of musical works are material (or spatiotemporal), the contents of encodings are material entities. Furthermore, since these contents are *of* encodings, they are (spatial) parts of the matter that constitutes the encodings. Given this, the contents of encodings can—at least, in principle—be modified/seen/touched/smelled/tasted—by modifying/seeing/touching/smelling/tasting the relevant spatial parts of the encodings. But if this is so, then the problems of the previous solution arise in this case as well.

As far as I am aware, there are no other potential solutions to the Problem of Intermittent Existence, and so our analysis is complete. Summing up what has been said, there are four possible perdurantist solutions to the Problem of Intermittent Existence. Solution (1) is to argue that our intuitions regarding M 's existence_r are not violated, since M exists_u at t_m . Solution (2) is to insist that M does not exist_r at t_m . Solution (3) is to adopt *Musical Existence*_r. Solution (4) is to adopt the version of musical perdurantism according to which encodings or their material contents, along with performances and work-initiating events, are constituents of musical works. However, as has been demonstrated, each of these solutions is problematic. Solution (1) is based on the false assumption that the fact that M exists_u at t_m can be used to preserve our intuitions regarding M 's existence_r. Solution (2) forces us to reject some of our core musical intuitions concerned with the existence_r of musical works, in particular the intuitions that musical works do not pop in and out of existence_r at different times and that they exist_r whenever their encodings exist_r. Solution (3) requires us to adopt a dubious metaphysical principle—*Musical Existence*_r. And if we accept Solution (4), we must abandon one of our core intuitions related to how we interact with musical works, namely the intuition that musical works and/or their parts cannot be modified by modifying their encodings or the contents thereof and seen/touched/smelled/tasted by seeing/touching/smelling/tasting their encodings or the contents thereof.

3 Final Remarks

In light of what has been said, a natural question arises: Does the Problem of Intermittent Existence show that musical perdurantism is unacceptable? And if not, then what role does this problem play in our assessment of this view? In the introduction to his *Philosophical Papers*, David Lewis (1983, x) writes:

Philosophical theories are never refuted conclusively.... The theory survives its refutation—at its price. ...When all is said and done, and all the tricky arguments and distinctions and counterexamples have been discovered, presumably we will still face the question which prices are worth paying, which theories are on balance credible, which are the unacceptably counterintuitive consequences and which are the acceptably counterintuitive ones. On this question we may still differ.

I agree with Lewis. Metaphysical investigation neither refutes nor establishes theories; rather, it identifies their prices (which, depending on our

philosophical preferences, we may or may not be ready to pay). Therefore, it would be incorrect to claim that the Problem of Intermittent Existence can be used to refute musical perdurantism. The role of this problem, I think, is to help us identify the price that we must pay if we are to accept this view.

Here, one might ask: Are we ready to pay this price? There is reason to do this just in one case—if alternative ontologies of musical works (e.g., the ontologies offered by Dodd, Levinson, Rohrbaugh, and Davies)³² force us to pay a comparable or greater price, or, in other words, if they force us to reject equally powerful or even more powerful intuitions and/or make equally questionable or even more questionable metaphysical assumptions. Thus, to answer the question posed above, it must be established whether these ontologies require us to do that. Establishing this, however, demands a substantial investigation, and, due to space limitations, such an investigation cannot be carried out here. So I would like to leave the question about the acceptability of musical perdurantism open.

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32 See Dodd 2000; Levinson 1980; Rohrbaugh 2003; Davies 2004.

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