



# Why compositional nihilism dissolves puzzles

Holly Kantin<sup>1</sup> 

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## Abstract

One of the main motivations for compositional nihilism, the view that there are no composite material objects, concerns the many puzzles and problems associated with them. Nihilists claim that eliminating composites provides a unified solution to a slew of varied, difficult problems. However, numerous philosophers have questioned whether this is really so. While nihilists clearly avoid the usual, composite-featuring formulations of the puzzles, the concern is that the commitments that generate the problems are not eliminated along with composites. If this is correct, it severely undercuts the motivation for the view. However, I argue that it is not correct. The aim of this paper is to explain exactly how and why eliminating composites dissolves substantive metaphysical puzzles. More generally, I aim to clarify the nihilist's ontological commitments and the scope of the paraphrase strategy she employs.

**Keywords** Compositional nihilism · Mereological nihilism · Composite objects · Material coincidence · Special composition question

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✉ Holly Kantin  
hakantin@ua.edu

<sup>1</sup> College of Arts and Sciences, The University of Alabama, Box 870218, Tuscaloosa, AL 35487-0218, USA

## 1 Introduction

Compositional nihilism is the view that there are no composite material objects.<sup>1,2</sup> Nihilists typically accept the existence of mereological *simples*—material objects without proper parts—and hold that simples can be arranged in all sorts of ways and collectively instantiate properties of varying complexity. However, nihilists deny that simples ever compose a further object.

Nihilists insist that their view is not as radical as it initially seems. While they deny that there are tables, trees, or people, they do not think that ordinary belief in composite objects (henceforth, *composites*) is due to some sort of mass hallucination. On the contrary, nihilists claim to accept many of the same composite-free facts about the material world that believers in composites (henceforth, *believers*) accept. For example, in a case where the believer will say that some simples compose a table, the nihilist will agree that the simples collectively instantiate a complex assortment of properties that we associate with tables.<sup>3</sup> In other words, when it comes to how matter is arranged and what properties are collectively instantiated by simples, the nihilist accepts the same composite-free facts as the believer. However, the nihilist denies the move from “there are simples collectively instantiating *f*-ish properties” to “those simples compose an *f*” (where *f* is a composite object sortal).

If nihilists can accept many of the same composite-free facts about the world as believers, then nihilism sounds more plausible than it might have initially. However, it has been questioned whether this gain in plausibility comes at the cost of efficacy. Nihilists want to minimize the differences between the facts they accept and the facts believers accept. But does this make the view too thin to do the work it claims?<sup>4</sup> In particular, a central motivation for nihilism concerns the many puzzles and problems associated with composites. These include the puzzles of material coincidence, the story of Theseus’s ship, and the Special Composition Question.<sup>5</sup> Nihilists claim that

<sup>1</sup> A nihilist about objects need not be a *compositional* nihilist; a stronger version of nihilism eliminates simples as well as composites, leaving us with an ontology of unindividuated material “stuff”. This view is explored by Sidelle (1998: Sects. 4–6), Turner (2011), and Cowling (2014). However, here I am only concerned with compositional nihilism and will use ‘nihilism’ to refer to compositional nihilism, specifically.

<sup>2</sup> Van Inwagen (1990) and Merricks (2001) are prominent defenders of severely restrictive accounts of composition. Both claim that composition occurs in some cases (for van Inwagen, when the simples compose *a life*, and for Merricks, when they compose a *person*) and so, are not strictly nihilists. However, for the sake of simplicity, and because it does not matter for my purposes here, I will sometimes speak as if they are nihilists. Other philosophers who have defended nihilist, or near-nihilist views about composition include Hossack (2000), Dorr (2005), Grupp (2006), Cameron (2008, 2010), Horgan and Potrč (2000, 2008, ch. 7), Sider (2013), and Contessa (2014). Horgan and Potrč defend *monism*, according to which the material world is one simple object.

<sup>3</sup> This way of putting it is not optimal, but it will suffice for the moment. In Sect. 2, I introduce the nihilist’s strategy for paraphrasing composite-featuring sentences and in Sect. 3, I discuss how the nihilist should understand the “arranged *F*wise” predicate she employs.

<sup>4</sup> See Bennett (2009) for a discussion of the ways in which nihilists try to minimize the differences between their ontology and the believer’s as to make nihilism maximally plausible. Bennett argues that this minimization may backfire; if the nihilist’s substantive claims are too thin, then it is unclear that or how she solves many of the puzzles that plague believers.

<sup>5</sup> Additional problems nihilism purports to dissolve are the overdetermination problem (see Merricks 2001, ch. 3), the problem of the many, and problems concerning vague composites (see Horgan and Potrč 2008 ch. 4).

these problems disappear when we eliminate composites. If this is so, it is a big coup—nihilism then provides a unified solution to a slew of varied, difficult problems.

However, numerous philosophers have questioned whether eliminating composites really does solve the problems associated with them. A general way to frame the challenge is to show that nihilists countenance equally difficult, *composite-free structural analogues* of at least some of the very same puzzles that they purport to dissolve. This challenge has been raised independently by McGrath (2005), Bennett (2009), Nolan (2010), and Tallant (2014).<sup>6</sup> If eliminating composites does not, in fact, enable the nihilist to solve problems, this severely undercuts the motivation for the view.

However, I argue that this challenge is based on confusion about the nihilist's view. The aim of this paper is to explain exactly how and why eliminating composites dissolves substantive metaphysical puzzles. In doing this, I clarify the nihilist's ontological commitments and the scope of the paraphrase strategy she employs.<sup>7</sup> (I explain the nihilist's paraphrase strategy at the start of the following section.)

I begin by discussing the nihilist's strategy for providing composite-free paraphrases of positive, composite-featuring sentences. In Sect. 3, I argue, contra Bennett and Tallant, that the nihilist has no difficulty answering a composite-free analogue of van Inwagen's Special Composition Question (Tallant dubs it "the Special Arrangement Question"). I argue that nihilists can and should give a *fictionalist* answer to the SAQ. In Sect. 4, I present and explain McGrath's challenge concerning the puzzles of material coincidence. In Sect. 5, I respond to McGrath by explaining why the nihilist can easily dissolve the composite-free analogue of the puzzle. In doing this, I address a similar argument from Bennett concerning this same puzzle. I conclude this section by explaining why the nihilist should not be expected to provide true paraphrases for certain sorts of composite-featuring sentences. This will bring out that and why nihilists cannot, but also need not, accept *all* of the composite-free facts that believers accept. In Sect. 6, I show how the considerations of the previous sections can be applied to explain why nihilists do not have trouble responding to a composite-free version of the Ship of Theseus puzzle (contra McGrath).

## 2 Nihilist paraphrase and factuality

While nihilism entails that all positive composite-featuring sentences are literally false, nihilists do not think that composite-featuring thought and talk is nonsense.<sup>8</sup> On

<sup>6</sup> Rettler (2018) has also argued that compositional nihilism is not properly motivated by puzzles about composites, but his challenge differs from the one I am concerned to address here. Rettler argues that a great many of the problems nihilists claim to dissolve can be run on individual, extended simples, whereas the sorts of "puzzle rebound" arguments I discuss here target the nihilist's commitment to providing composite-free paraphrases using the *arranged Fwise* predicate.

<sup>7</sup> My aim is to defend the nihilist from the charge that eliminating composites does not solve problems. However, I am not defending the view that nihilism is the *only* position that can solve these problems (nor am I setting out to defend nihilism in general).

<sup>8</sup> Some nihilists, for example, van Inwagen (1990), claim that, despite appearances, composite-featuring sentences express literally true propositions. This does not, however, obviate the need for paraphrases because he still needs to explain exactly what proposition is expressed by positive composite-featuring sentences of ordinary English. And in fact, it is van Inwagen who first tried to work out how the nihilist

the contrary, nihilists accept that many composite-featuring sentences reliably track facts about the material world. To accommodate this idea, they employ a strategy for “paraphrasing” composite-featuring sentences into composite-free variants. The strategy is to preserve the composite-free facts tracked by the original sentence while eliminating the commitment to composites. A composite-free fact is a fact the obtaining of which does not require the existence of composites. A composite-free sentence is a sentence that does not contain any composite-terms or any terms that must be analyzed in terms of composites. The strategy for paraphrasing composite-featuring sentences is to employ plural quantification or sets in order to replace talk of composites with talk about how simples are arranged. For example, “here is a table” would be paraphrased as “here are some simples arranged tablewise”.<sup>9</sup> While the basic idea is straightforward enough, things get complicated when it comes to more complex sentences.

The paraphrase strategy allows the nihilist to account for the fact that composite-featuring sentences sometimes track composite-free facts about the material world. It also allows her to distinguish between composite-featuring sentences that are false only because they entail that composites exist and those that are false because they misrepresent the world in other ways. Call sentences of the former sort “factual”—they are false only because they entail the existence of composites, but otherwise get the world right.<sup>10</sup> Factual composite-featuring sentences have true paraphrases. As an illustration, consider the following two sentences:

- a. There is a sofa in the White House.
- b. There is a flying sofa in the White House.

While both (a) and (b) are false according to the nihilist, there is an important difference between them: Sentence (a) is factual—it is false *only* because it entails that composites exist. Sentence (b), on the other hand, is false not only because it entails that composites exist, but also because it gets the world wrong in other ways.

The plausibility of nihilism arguably depends on whether nihilists can explain how and why many positive, composite-featuring sentences track facts about the material world. The idea that the nihilist can provide paraphrases of the sort described is supposed to show that she can do this. However, the nihilist runs into trouble if the

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Footnote 8 continued

should paraphrase composite-featuring sentences. So regardless of whether one is a “Hermeneutic” nihilist like van Inwagen or a “revisionary” nihilist who says that composite-featuring sentences are literally false (e.g., Merricks 2001), she needs paraphrases (I take the “revisionary versus hermeneutic” terminology from Bennett (2009), who correctly points out that the distinction seems to be a semantic and not metaphysical one (Bennett 2009, Sect. 5)).

However, it seems that some nihilists understand the view as a thesis about what *fundamentally* exists, where endorsing nihilism on this level does not involve saying anything is wrong with folk belief about composites. Daniel Korman calls this view “deep nihilism”. See Korman (2015a, b, ch. 6) for an extensive discussion of this idea. Those who seem as if they might endorse deep nihilism are Dorr (2005), Sider (2004, 2011, 2013), and Cameron (2008, 2010), although the commitment is not clear. In any case, my concern here is with “regular” nihilism and not deep nihilism.

<sup>9</sup> This method of paraphrase was originally proposed by van Inwagen (1990) and has been employed by many nihilists since.

<sup>10</sup> The idea of factuality has been discussed by Yablo (1998), Sider (1999), Rayo and Yablo (2001), Schiffer (2003), and McGrath (2005). McGrath devotes the first half of his paper to working out a detailed account of factuality. For my purposes, the details of his account do not matter (although, everything I say is consistent with the account he develops).

problems she purports to avoid survive at the level of composite-free commitments that she has no reason to reject. In the following sections I consider the charge that eliminating composites does not extirpate the ontological commitments needed to generate problems.

### 3 The special composition question and the special arrangement question

The Special Composition Question (SCQ) asks, “when, or under what conditions, do some objects, the *x*s, compose a further object, *y*?”<sup>11</sup> The believer who wants to maintain an ontology of all and only *ordinary* objects has a hard time with this question. She wants to say that simples arranged tablewise, for example, compose a further thing—namely, a table—but that simples arranged table-bookwise, for example, do not. The difficulty comes in providing a principled answer that more or less matches our commonsense idea about what composites exist. Most philosophers agree that this task is insurmountable.<sup>12</sup>

The nihilist’s answer to the SCQ is that composition *never* occurs. Along with the universalist, who claims that the *x*s *always* compose a further object *y*, the nihilist avoids concerns about arbitrariness. However, Bennett suggests that the nihilist faces an equally difficult question at the level of simples and properties.

First, consider van Inwagen’s ‘Special Composition Question’—when, if ever, do simples compose a composite object? ... [T]he nihilist is actually threatened with arbitrariness just as much as the believer is. The nihilist does indeed [have] a straightforward answer to the Special Composition Question, as well as to the closely related question ‘when, if ever, do some things compose an *F*?’, where *F* is a sortal or kind term. In both cases, the nihilist will say ‘never’. But there is a question closely analogous to the second of those two, to which the nihilist does *not* have a straightforward answer—namely, ‘when, if ever, are some things arranged *F*-wise?’ Put the point this way: perhaps the believer has to say something about what the world has to be like to contain tables. However, the nihilist *equally* needs to say something about what the world has to be like to contain simples arranged tablewise. If the believer should tell us when and how some simples compose a thing of kind *F*, the nihilist should tell us when and how some simples are arranged *F*-wise. (Bennett 2009, p. 66)

Citing Bennett, Tallant expresses a similar concern:

<sup>11</sup> The large literature on the Special Composition Question was jump-started by van Inwagen’s discussion and treatment of the question in *Material Beings* (1990), although he first discusses the question in an earlier paper (see van Inwagen 1987) and credits Hestevold (1981) with being the first present-day philosopher to ask and address question (see van Inwagen 1990, p. 287 n. 14).

<sup>12</sup> To be clear, I mean that the task of *finding an informative answer to the SCQ that saves all and only ordinary objects* is generally taken to be insurmountable, *not* the task of justifying that such an ontology is correct nor the task of providing an informative answer to the SCQ (which van Inwagen thinks he does). Proponents of commonsense ontologies (i.e., ontologies on which all and only ordinary objects exist) have argued that such an ontology might be correct even if there is no informative answer to the SCQ that can validate it. For example, see Markosian (1998) and Korman (2010).

My challenge to the ... nihilist is to spell-out what is meant by: ‘the simples are arranged F-wise’. In pressing this issue I am asking a question analogous to Van Inwagen’s special composition question (SCQ). Where Van Inwagen (1990, p. 30) asks, ‘when is it true that  $\exists y$  the  $x$ s compose  $y$ ’, I ask, ‘When is it true that  $\exists xx$  the  $x$ s are arranged F-wise?’ With a nod to the SCQ, let us call this new question the Special Arrangement Question: the SAQ. (Tallant 2014, p. 1513)

So, whereas the SCQ asks, “under what conditions do the  $x$ s compose a further object  $y$ ?”, the SAQ asks, “under what conditions are the  $x$ s arranged  $F$ wise?” where ‘ $F$ ’ is a composite object sortal term (e.g., ‘table’). Tallant goes on to argue that the nihilist cannot provide a satisfactory answer to the SAQ. He does this by considering some answers that actual nihilists have given, as well as some answers that a nihilist might give, and argues that none of them are adequate.<sup>13</sup>

An intuitive idea is that the nihilist can understand the *arranged Fwise* predicate in terms of a certain sort of counterfactual.<sup>14</sup> For example, “the simples are arranged tablewise if and only if they are arranged in a way such that, *if tables existed*, they would compose a table.” However, Tallant argues that the nihilist cannot avail herself of this sort of answer. His reason concerns his acceptance of a principle that Williams (2006) calls “Globalisation”: “If  $F$  fails to apply to anything in the actual world, then  $F$  has no intension” (2006, p. 498). If the principle is true, then the nihilist cannot give an analysis of *arranged Fwise* that refers to actual or possible composite  $f$ s; since the nihilist denies there are any  $f$ s, the term will lack an intension. This impugns counterfactual analyses of the sort described above. However, as Tallant acknowledges, Globalisation is implausible for many composite sortal terms. For example, it is implausible when a thing’s intension is determined entirely by its function, or as a function of the intension of its parts. This is the case for at least most artifacts. To use Tallant’s example, there are no “hele-paults”, but one might stipulate that a “hele-pault” is any entity that flies like a helicopter (i.e., via the use of a rotor) and fires munitions like a catapult (2014, p. 1515). However, Globalisation is more plausible when it comes to natural kind terms. The idea is that fixing the reference a natural kind term requires real-world interaction with that kind. If the principle holds for natural kinds, then nihilists cannot, for example, appeal to actual or possible *cats* in providing an analysis of *simples arranged catwise*. And if that is correct, then any analysis of *arranged Fwise* that makes reference to actual or possible composite  $f$ s will be inadequate due to its failure to accommodate natural kinds.

While I have concerns about Globalisation, or at least about Tallant’s use of it in arguing against the nihilist’s ability to answer the SAQ, it does not matter for my

<sup>13</sup> Tallant goes a step farther than Bennett. Bennett explicitly states that she is not claiming that the nihilist cannot provide an adequate answer the SAQ; rather, she says that she is just raising a challenge to the nihilist by pointing out that it is not obvious that or how the nihilist can do this (see Bennett 2009, p. 70). Elder (2011) and Unger (2014) have also suggested that the nihilist cannot give an adequate explanation of what it means to say that simples are “arranged  $F$ wise” (and so, that she can’t answer the SAQ).

<sup>14</sup> For example, Dorr and Gideon (2002) and Merricks (2001) suggest that *arranged Fwise* might be analyzed in terms of this sort of counterfactual (Of course, for those who think that if nihilism is true it is necessarily true, this will be a counterpossible, not a counterfactual).

purposes here.<sup>15</sup> In fact, I think that the nihilist need not refer to actual or possible *fs* in providing an analysis of *arranged Fwise* and so, can answer the SAQ without encountering Tallant’s objection. Along with Andrew Brenner (2015, pp. 1304–1305), I think that nihilists can give a *fictionalist* answer to the SAQ.<sup>16</sup> I have in mind something like this: The simples are arranged *Fwise* if and only if they are arranged in way *W* and, *according to the fiction that there are composites*, being arranged in way *W* suffices for composing an object *f*.<sup>17</sup> Importantly, I am not understanding “according to the fiction that there are composites” as the counterfactual, “if the fiction that there are composites *were true*”. Rather, I understand it as, “according to what is true in the composite-fictional story”. This latter interpretation need not be fleshed out counterfactually: When we say that a claim is true in a fictional context we need not be saying that if the story were true, then the claim would be true.<sup>18</sup> This is especially clear in cases where the story contains inconsistencies and so, *could not* have been true; we can have clear views about what is true in a story without thinking that we can make sense of counterpossibles. Understood in this way, the fictionalist answer to the SAQ avoids Tallant’s objection because the right side of the analysis does not make reference to actual or possible *fs*, but only to *the fiction* that there are *fs* (and so, to fictional composite *fs*). In the remainder of this section I explain the fictionalist answer and address an objection due to Unger (2014) concerning the vagueness of *being arranged Fwise*.

When the nihilist says that she can explain what is going on in the world when a composite-featuring sentence is factual, she is saying that the composite-featuring sentence tracks facts about how simples are or could be arranged (i.e., what properties they collectively instantiate). Facts about how simples are arranged are grounded by the mind-independent world. However, another set of facts about the world is relevant to the nihilist. Namely, facts about *how we think and talk* about the mind-independent world—that is, how we carve it up conceptually and linguistically. While the nihilist denies that there are composites, she obviously does not deny that we think and talk as if there are. So, the nihilist can hold that it is a composite-free, mind-independently grounded fact about the world that there are simples *s* in some spatiotemporal region *R* that are arranged in whatever way they are arranged. There is then a further question about whether being arranged in that way suffices for composing an object *f*, according to the fiction that there are composites (henceforth, *composite fiction*).<sup>19</sup>

<sup>15</sup> See Brenner (2015, pp. 1304–1305) for an argument that Tallant’s argument employing Globalisation must be wrong because it proves too much.

<sup>16</sup> Brenner suggests that there are several adequate answers the nihilist could give and the fictionalist answer is among these. However, he does not endorse any one of these answers over the others.

<sup>17</sup> The idea of composition as a fiction is discussed by Dorr and Gideon (2002) and Dorr (2005). Jonathan Schaffer (2007) also discusses this idea in his discussion of monism (here it is the fiction of *decomposition* rather than of composition than is relevant).

<sup>18</sup> For example, in the Harry Potter story, it is true that Harry grew up at 4 Privet Drive. In saying this, I am not claiming that if J. K. Rowling’s story were true, Harry Potter would have grown up at 4 Privet Drive. Rather, I am simply saying that this is true *in the story*.

<sup>19</sup> Like Brenner (2015, p. 1305, note 21), I am not suggesting that the nihilist should say that *what it is* for some simples to be arranged dogwise, for example, is determined by composite fiction. Rather, she should say that what it means for the simples to be arranged dogwise is that, according to composite fiction those simples compose a dog. As Brenner points out, this is why the nihilist who gives a fictionalist answer



That said, what exactly *is* composite fiction? In short, it is the idea that the sorts of composites that feature in everyday thought and talk (e.g., tables, trees, cats) exist, and that they persist in more-or-less the ways we ordinarily think. While the believer thinks this idea is veridical, the nihilist can think of it as a convenient fiction for navigating the composite-free world. As such, composite fiction is not a theory or fleshed-out view; rather, it consists of the unreflective, object-level beliefs ordinary people have about what composites exist and how those composites persist. It contains (unwritten) rules and (unwritten) guidelines for thinking and talking about the material world. When we reflect on these beliefs and take them seriously, we may build on the fiction by positing principles or trying to reconcile apparent inconsistencies. When we do this, we are doing metaphysics. But composite fiction, as I understand it here, consists only of the commonsense beliefs about composites that are presumed in everyday thought or talk.

The nihilist need not, and should not, say that composite fiction is determined arbitrarily. Rather, our commonsense ontological judgments track real features of the material world. For example, we tend to recognize collections of simples that are unified in a way that matters to us. As Rose and Schaffer (2017) suggest, most, if not all, of our folk ontological concepts are *teleological*. One way of putting the idea is that we are picking out arrangements of simples that are unified in a teleological way and thinking of them as also being unified as singular entities (i.e., composites). So, our practical purposes, and perhaps other factors, play a large role in determining the rules of composite fiction. It is also *prima facie* plausible that we are biologically and psychologically predisposed towards recognizing certain mereological sums and not others. But importantly, the nihilist denies that there is anything *ontologically* significant about the sorts of arrangements of simples we are disposed to recognize as compared to those that we are not. While composite fiction is not determined willy-nilly, it does not track facts about how the mind-independent world is “carved at the joints”, so to speak.

While none of the concerns Tallant raises for non-fictionalist answers to the SAQ apply to the fictionalist answer, Unger (2014, p. 14 n. 18) raises a general problem about the coherence of the *arranged Fwise* predicate that is worth addressing. He suggests that nihilists face a problem because *arranged Fwise* is incoherent for any *F* that is sorities-susceptible. Just as *table* is vague and susceptible to a sorities argument, so is *arranged tablewise*. He thus argues, in effect, that nihilists are unable to give a coherent answer to the SAQ for a great many *Fs*.<sup>20</sup>

Brenner (2015, pp. 1306–1309) argues that Unger’s argument should not bother the nihilist for two reasons. First, if the vagueness of *F* entails that simples are never arranged *Fwise* (as Unger suggests), then it also entails that there are no *Fs*. This supports nihilism (or at least near nihilism, since there are surely some non-vague *Fs*).

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Footnote 19 continued

to the SAQ does not run up against a concern Elder raises about the fictionalist response (Elder 2011, pp. 119–120). Elder complains that if the fact that the simples are arranged dogwise is supposed to explain why the folk believe in dogs, it cannot be that the simples are arranged dogwise because the people believe they are. That is true, but the fictionalist account I describe denies the latter claim.

<sup>20</sup> Unger (2014) suggests this difficulty for the nihilist in a note and does not spell out exactly how the argument goes. As Brenner discusses, Unger seems to be suggesting that if *F* is sorities-susceptible, we should deny that simples are ever arranged *Fwise*. See Brenner (2015), pp. 1306–1307 for discussion.



Second, Brenner points out that most philosophers agree that objects can satisfy vague predicates. If this is true, then the vagueness of *arranged Fwise* does not present a special problem for the nihilist.

I agree with Brenner on both points; the vagueness of *arranged Fwise* should not trouble the nihilist. And in fact, it is important to notice that the fact that many *F*s are vague is *less* troubling for the nihilist than it is for the believer. In particular, if the believer accepts the idea that an object's identity conditions depend (in part) on its sortal<sup>21</sup>—e.g., if *x* is a statue, *x* will go out of existence if it is squashed, regardless of whether the matter that constituted it still exists—then the vagueness of a sortal concept *F* entails that it is sometimes indeterminate whether a given *f* exists. For example, if we deconstruct a table in teeny bits, at some point it will cease to exist—but there is no precise point at which it goes out of existence. This is troublesome for the believer. But since the nihilist denies that tables exist, the vagueness of *table* does not entail that it may be indeterminate whether some entity exists. Rather, it will just be indeterminate whether some composite-fictional concept continues to apply. This is easily explained by the vagueness of our language and concepts.<sup>22,23</sup> In fact, given the nihilist's idea that thought and talk about composites is just a convenient fiction that helps us navigate the world, it should be *expected* that sortal concepts will be vague—both with respect to their synchronic application conditions as well as their persistence conditions.<sup>24</sup>

In the following section, I turn to McGrath's argument that the nihilist is not in a better position with respect to a composite-free analogue of the puzzles of material coincidence than the believer is with respect to the original version of the puzzle.

#### 4 No objects, no problems?

Here is a familiar puzzle: An artist sculpts a lump of clay into a statue of Socrates. Before the sculpting, there was a lump of clay. After the sculpting, there is a statue. However, it seems that the lump does not go out of existence when it changes shape; rather, the lump now *constitutes* the statue. But is constitution *identity*? Are the statue and the lump one and the same thing? There are excellent reasons for thinking that they cannot be.<sup>25</sup> Most obviously, they have different *temporal* properties—the lump existed before the statue. They also differ in their *modal*, and so, *persistence* properties. In particular, the statue has its Socrates-esque form essentially while the lump of clay does not. As such, the lump, but not the statue, can survive being squashed. Since the

<sup>21</sup> See Wiggins (1980) for a defense of the idea that identity is sortal-dependent.

<sup>22</sup> This is not to say that the believer *must* accept that existence is vague; there are ways for her to deny this. For example, she might endorse epistemicism about vagueness (see Williamson (1994) for a defense of epistemicism). Rather, I'm saying that this presents a problem for the believer where it does not present a problem for the nihilist.

<sup>23</sup> See Brenner (2015, p. 1308 n. 26) for some thoughts on why vague existence is more objectionable than vague predicates.

<sup>24</sup> Dorr and Rosen (2002 p. 170) point out that there is no problem with a vague answer to the SCQ if composition is a fiction, whereas it seems the answer cannot be vague if it is intended as a "serious theoretical claim".

<sup>25</sup> Those who have defended the view that constitution is not identity include Wiggins (1968), Johnston (1992, 2006), Rudder Baker (1997), and Fine (2003, 2006, 2008), among many others.

statue and lump differ in some properties, then, by Leibniz's Law, they are distinct. Since they are distinct and the statue constitutes the lump, it follows that they are spatiotemporally coincident—that is, they are distinct objects existing in the same place at the same time.

However, there are various problems with this idea. The most serious one concerns how the distinction between the (apparently) coincident objects could be *grounded*. As just noted, the reason for thinking coincident objects  $x$  and  $y$  are distinct is because  $x$  and  $y$  appear to differ with respect to some properties. However, given that  $x$  and  $y$  share all their proper parts at the time ( $t$ ) they coincide, it seems that they must be indiscernible with respect to their non-modal, non-temporal, non-supervenient properties at  $t$ . This makes it hard to see how they could differ with respect to *any* properties at  $t$ . In particular, it seems that an object's modal properties must supervene on its non-modal properties. Since the statue and lump have the same non-modal properties at  $t$ , what could ground the alleged distinction in modal, temporal, or any other properties?<sup>26</sup> The supervenience principle<sup>27</sup> implied by this thought is inconsistent with the considerations that support the conclusion that the statue and lump are distinct, yet spatiotemporally coincident. This generates a puzzle: the following sentences are jointly inconsistent, although each one seems true.<sup>28</sup>

*Lump*: The lump persists through the flattening just after [time]  $t$ .

*Statue*: It is not the case that the statue persists through the flattening just after [time]  $t$ .

*Supervenience*: If  $x$  and  $y$  have all the same parts at a time [ $t$ ], then  $x$  persists immediately after  $t$  iff  $y$  does.

*Same Parts*: The statue and the lump have the same parts at [time]  $t$ .<sup>29</sup>

It is natural to think that this puzzle disappears when we eliminate composites. After all, the problem is generated by composites' modal properties, and so how could it survive their elimination? Van Inwagen seems to be thinking along these lines in his discussion of puzzles concerning artifacts:

Now, if there are no artifacts, then there are no philosophical problems about artifacts. Or, at least, those philosophical problems that we should have said

<sup>26</sup> This problem is often referred to as the *grounding problem*. The problem is discussed by Burke (1992), Olson (2001) and Bennett (2004), among others. Note that the grounding problem does not rely on the (dubious) assumption that all of an object's qualitative properties supervene on its microstructure. The problem arises not because the statue and lump have the same microphysical structure at time  $t$ , but because they are composed of the numerically same parts and so, are also in the same surroundings. See Olson (2001, p. 342) for a discussion of this point.

<sup>27</sup> Here I frame the problem in terms of supervenience because McGrath does. However, see Olson (2001, sect. IV) and Bennett (2004, Sect. 2) for some thoughts on why the problem may not be best posed in terms of supervenience.

<sup>28</sup> This is the exact formulation of the statue/lump problem given by McGrath (2005, p. 476). I use his formulation in order to facilitate the presentation of his argument that a composite-free analogue of the puzzle arises for the nihilist.

<sup>29</sup> Although McGrath does not say this explicitly, keep in mind that they have the same parts *arranged in the same way and they are in the same context*.

were “about artifacts” are real problems only to the extent that the sentences that are used to state them can be translated into sentences that can be clearly seen to imply the existence of no physical objects but simples and organisms. And I know of no traditional problem about artifacts that can survive that sort of translation. *This is particularly true of problems of identity and persistence through mereological change.* (Van Inwagen 1990, p. 128, my emphasis)

However, McGrath claims that this problem *does* survive the translation and he attempts to meet van Inwagen’s implicit challenge by providing a paraphrase for each of the sentences in the statue/lump puzzle. In doing this, McGrath takes great care in working out a paraphrase scheme for modal and temporal sentences. My brief presentation will leave out many details of the scheme he works out, but the key points should be clear. The basic idea is that, in addition to talking about what properties simples collectively instantiate at a given time, the nihilist will talk about the properties collectively instantiated by simples at various times and in various worlds. For example, the nihilist will talk about simples  $s$  at  $t$ , simples  $s^1$  at  $t^2$ , simples  $s^3$  at  $t^3$ , etc., where  $(s^1 \dots s^n)$  are diachronically arranged in a way such that, according to composite fiction,<sup>30</sup> suffice for the existence of a persisting  $f$  (where  $f$  is a composite-object sortal) composed of  $s^1$ – $s^5$ .<sup>31</sup> To make this idea easier to model, McGrath utilizes Sider’s notion of an *assignment* (2001, p. 133). Here is McGrath:

An assignment is any function from times to sets of simples. These functions may be viewed extensionally as sets of ordered pairs  $\langle t, \{the\ xs\} \rangle$ , where  $t$  is a time and the  $x$ s are simples. ... So, let us say that an assignment  $f$  is an *object\** iff the members of  $f$  – the ordered pairs – are arranged in some way  $w$  such that, given composites, being arranged  $W$ ly demands [i.e., metaphysically entails or necessitates] *diachronically composing exactly one object* (i.e., where  $f$  has the property of diachronically composing exactly one object iff there is exactly one object that exists at all and only the times in  $f$ ’s domain, and for each such time  $t$ , that object is composed by members of  $f(t)$  at  $t$ ). (McGrath 2005, pp. 474–475, emphasis in the original)

Using this framework, McGrath comes up with the following analogue of the Statue/Lump puzzle:

*P(Lump)*: The lump\*  $f$  is such that, for  $t'$  immediately after the flattening,  $f(t')$  is defined.

*P(Statue)*: It’s not the case that the statue\*  $g$  is such that, for  $t'$  immediately after the flattening,  $g(t')$  is defined.

<sup>30</sup> McGrath uses “given composites”, but per the discussion in Sect. 3, I think this should be replaced with “according to composite fiction”.

<sup>31</sup> It is important to keep in mind that the simples at  $t$  (i.e.,  $s$ ) might not be the exact same simples that exist at  $t^1$  (i.e., they may not be the numerically same simples in collection  $s^1$ ). This is because composites need not be composed of the same simples at every point in their existence.

*P(Supervenience)*: For any objects\*,  $f$  and  $g$ , and time  $t$ , if, for any object\*  $h$ ,  $h(t)$  is a subset of  $f(t)$  iff  $h(t)$  is a subset of  $g(t)$ , then  $f$  has a defined value for  $t'$  immediately after  $t$  iff  $g$  does.

*P(Same Parts)*: The lump\*  $f$  and the statue\*  $g$  are such that, for any object\*  $h$ ,  $h(t)$  is a subset of  $f(t)$  iff  $h(t)$  is a subset of  $g(t)$ . (McGrath 2005, p. 477)

The paraphrases for *Lump*, *Statue*, and *Same Parts* are relatively straightforward, but *P(Supervenience)* is difficult to get a handle on. In order to get clear on how to understand this sentence, it will be useful to employ a different method of paraphrasing temporal and modal sentences than the one McGrath uses. This is because McGrath's method embeds a lot into the concept of an "object\*" and in order to grasp what *P(Supervenience)* says, it will be helpful to spell things out in detail.

Just as we can talk about what properties are collectively instantiated by simples at a time, we can talk about what properties are collectively instantiated by simples across time. Simples  $s$  may be arranged lumpwise at  $t$ , and  $s$  may be a proper subset of a diachronic collection of simples  $s^1$ – $s^5$  that are arranged "persisting-lumpwise" from  $t^1$ – $t^5$ . A diachronic collection of simples are arranged "persisting- $F$ wise" in a given spatiotemporal region if and only if, according to composite fiction, they compose a persisting  $f$ . In such a diachronic arrangement,  $s$  and  $s^5$  are arranged "same-lumpwise", where "being arranged same- $F$ wise" is a relation that is instantiated between collections of simples  $s$  and  $s'$ , existing at different times, both of which are arranged  $F$ wise and are spatiotemporally and causally related in some way  $W$ , and according to composite fiction, being related in way  $W$  suffices for the existence of a persisting  $f$  composed of  $s$  at the earlier time and  $s'$  at the later time. Using this terminology, here is an alternative, and more perspicuous, way of paraphrasing the four jointly inconsistent sentences.

*Pa(Lump)*: Simples  $s$  arranged lumpwise at  $t$  are arranged same-lumpwise with simples  $s'$  at  $t'$ , where  $t'$  is immediately after  $t$  and is after a flattening.

*Pa(Statue)*: Simples  $s$  arranged statuewise at  $t$  are not arranged same-statuewise with simples  $s'$  at  $t'$ , where  $t'$  is immediately after  $t$  and is after a flattening.

*Pa(Supervenience)*: If simples  $s$  are arranged  $F$ wise and  $G$ wise at  $t$ , then  $s$  can be arranged same- $F$ wise with simples  $s'$  at  $t'$ , where  $t'$  is immediately after  $t$ , if and only if  $s$  are also arranged same  $G$ wise with  $s'$  (where  $F$  and  $G$  are sortal or kind terms).

*Pa(Same Parts)*: Simples  $s$  are arranged both statuewise and lumpwise at  $t$ .

Applied to the statue/lump case, *Pa(Supervenience)* says that if simples  $s$  are arranged both statuewise and lumpwise at time  $t$ , then  $s$  are arranged same-lumpwise with  $s'$ , where  $s'$  exists immediately after  $t$ , if and only if  $s$  is also arranged same-statuewise with  $s'$ . Here is another way to put the idea: *Pa(Supervenience)* says that it is not possible that simples  $s$  are arranged both  $F$ wise and  $G$ wise at  $t$  unless the conditions under which  $s$  are arranged same- $F$ wise with simples  $s'$  are the same as the conditions under which  $s$  are arranged same- $G$ wise with  $s'$  (Put with respect to *Supervenience*,

the idea is that it is not possible for two sortals  $F$  and  $G$  to be instantiated at the same spatiotemporal location  $L$  and each dictate distinct persistence conditions for an object at  $L$ ). I say more about *Pa(Supervenience)* in the following section.

The paraphrased sentences are still jointly inconsistent. We can now state McGrath's challenge to the nihilist. He claims that if the sentences that compose the statue/lump puzzle all have true composite-free paraphrases, then the nihilist will be stuck with a puzzle that is just as difficult as the original. The nihilist is in a better position than the believer only if she has a special—i.e., distinctively nihilist—reason for rejecting at least one of the paraphrased sentences (and so, for denying the factuality of the original). McGrath considers a number of ways the nihilist might try to deny each of the paraphrased sentences and notes that each one corresponds to a move the believer can make with respect to the original puzzle.<sup>32</sup> Further, if the nihilist does have a special reason for denying that one of the sentences is factual, then she seems to be admitting that she cannot, in fact, account for all the composite-free facts that the believer accepts.<sup>33</sup> With this in mind, McGrath seems to be posing the following dilemma: Either the nihilist cannot account for all of the composite-free facts tracked by the original sentences and so, the paraphrase strategy is inadequate, or she can account for them, but then has no special way of resolving the puzzles.

Contra McGrath, I will argue that the nihilist is not in the same position with respect to the composite-free version of the puzzle as the believer is with respect to the original. Rather, the nihilist can easily reject *Pa(Supervenience)*. The general reason is that the considerations that motivate *Supervenience* depend on the acceptance of composites; once composites are eliminated, the analogue of the principle is unmotivated and the puzzle loses its bite. Further, the fact that *Pa(Supervenience)* is false on the nihilist's ontology (and so, that she should deny the factuality of *Supervenience*) is not a mark against the plausibility of nihilism; it is not the case that the nihilist needs to provide a true paraphrase of every sentence that is true according to, or plausible within, composite fiction. In the following section I explain and defend these claims.

## 5 Why the nihilist can reject *Pa(Supervenience)* and deny the factuality of *Supervenience*

Let's recall why the believer is under pressure to accept *Supervenience*. Again, the original principle is as follows:

*Supervenience*: If  $x$  and  $y$  have the same parts at a time  $t$ , then  $x$  persists immediately after  $t$  iff  $y$  does.

<sup>32</sup> On p. 477 McGrath writes, "The denial that  $S$  is factual is tantamount to the denial of  $P(S)$ . But why think  $P(S)$  is false? Here the nihilist can appeal to the same sorts of considerations realists do ... Her available answers to the problem are just going to be simple transformations of the realist's. If she can adequately defend her answer, it is hard to see why the realist cannot give the corresponding answer."

<sup>33</sup> McGrath writes, "I will argue that Peter van Inwagen's well-known project of nihilist paraphrase, if successful, specifies factual contents for a large class of composites-sentences, including, as we will see, the sentences figuring in the statue/lump puzzle..." (2005, p. 470, my emphasis).

It is noteworthy that *Supervenience* is not immediately plausible in the same way as the other three sentences in the jointly inconsistent set. In fact, if one is thinking about the statue/lump case, *Supervenience* seems false on first blush. It seems false because, while the sortals *statue* and *lump* have overlapping *application* conditions, they seem to differ with respect to their persistence conditions. This makes it seem possible that the lump preexist or outlast the statue (contra *Supervenience*). However, the motivation for *Supervenience* becomes clear when we think about how an object's modal properties, and so persistence conditions, are grounded. It is highly intuitive that an object's modal properties are grounded by its non-modal properties. The only alternative is that its modal properties are ungrounded or *brute*, and this is *prima facie* implausible. Many think that if we accept the idea that an object's modal properties are grounded by its non-modal properties, *Supervenience* is very plausible.

However, it is not obvious that the nihilist has an analogous theoretical motivation for accepting *Pa(Supervenience)*. Again, when applied to the statue/lump case, *Pa(Supervenience)* says that if simples  $s$  are arranged both statuewise and lumpwise at  $t$ , then  $s$  are arranged same-lumpwise with  $s'$ , where  $s'$  exists immediately after  $t$ , if and only if  $s$  is also arranged same-statuewise with  $s'$ . If we are trying to motivate *Pa(Supervenience)* in a way analogous to how *Supervenience* is motivated for the believer, the idea would be something like this: Simples  $s$  collectively instantiate a single set of (non-modal) properties at  $t$  and these properties can ground the property *being arranged statuewise* or *being arranged lumpwise*, but *not both* because they are *incompatible*. So, just as the non-modal properties instantiated at the region where the statue/lump exists cannot ground two inconsistent sets of modal properties—one corresponding to the sortal *statue* and one corresponding to the sortal *lump*—the non-modal properties collectively instantiated by simples  $s$  cannot ground both the property *being arranged statuewise* and the property *being arranged lumpwise*. Or, more precisely—it cannot *unless* the conditions under which a diachronic set of simples is arranged persisting-statuewise *are the same* as the conditions under which a diachronic set of simples are arranged persisting-lumpwise.

Notice that this line of thought depends on the idea that *being arranged lumpwise* and *being arranged statue-wise* are incompatible properties. The idea is that they cannot be instantiated simultaneously for reasons analogous to why a single thing cannot be both a statue and a lump. Bennett puts the point as follows:

[The nihilist] also needs ... to translate our everyday claims about persistence into nihilistically acceptable terms. But then there will be corresponding properties collectively instantiated by the simples, and we have not been given any reason to think that they will all be compatible. In the location that the multi-thinger believer [i.e., believer in the possibility of spatiotemporally coincident composites] says is occupied by Lump1 and Goliath [i.e., the lump and the statue], for example, the nihilist will apparently say that there are some simples that are both arranged would-survive-being-squashed-wise and arranged would-not-survive-being-squashed-wise. In short, if the believer is threatened with commitment to multiple objects in a spatio-temporal region, the nihilist is threatened with commitment to simples that collectively instantiate incompatible persistence-condition-analogue properties. (Bennett 2009, pp. 69–70)

Bennett's key claim is that *being arranged lumpwise* and *being arranged statuewise* are incompatible because the former entails *being arranged would-survive-being-squashed-wise*, and the latter entails *being arranged would-not-survive-being-squashed-wise*.

On the face of it, it might seem that if simples are arranged statuewise then they are also arranged *would-not-survive-being-squashed-wise*, and *mutatis mutandis* for *being arranged lumpwise*. But this idea rests on a mistake. The first thing to notice is that simples *themselves* cannot be arranged would/would-not-survive-being-squashed-wise: According to the nihilist, simples do not compose an entity that is the possible subject of persistence or survival, nor are the individual simples the relevant subjects of persistence or survival. With respect to the latter, the simples collectively instantiate the property of being arranged lump/statuewise, but no individual simple does. Further, if simples  $s^1$ – $s^5$  are arranged persisting statuewise from  $t^1$ – $t^5$ , the diachronic arrangement could, but need not (and probably will not), consist of the numerically same simples at each of  $t^1$ – $t^5$  (See note 31). Rather, when the nihilist says that simples  $s$  are arranged statuewise (say) at  $t$ , she is saying that  $s$  are arranged so that they collectively instantiate properties such that, *according to composite fiction*, they compose an object that cannot survive a squashing. In saying that those simples  $s$  are also arranged lumpwise, she is saying that they are arranged as to collectively instantiate properties such that, *according to composite fiction*, they also compose an object that *can* survive a squashing. So, there is an inconsistency, but contra Bennett, it does not manifest at the level of simples and the properties they collectively instantiate at a time. Rather, the inconsistency is only at the level of composite fiction.

That said, one might think that the problem is specific to Bennett's way of describing persistence-condition-analogue properties (as she calls them). In particular, "would/would-not survive" needs to be paraphrased in a nihilist-friendly way. And as Bennett notes, the nihilist does have to account for the factuality of a sentence like, "the lump can survive a squashing" (which is the modal version of *Lump*). With this in mind, it will be helpful to talk through how the nihilist can paraphrase this sort of sentence:

*Pa(The Lump Can Survive a Squashing)*: Simples  $s$  arranged lumpwise at  $t$  are such that if there are some simples  $s'$  arranged lumpwise at a later time  $t'$ , where  $t'$  is after a squashing, and  $s$  and  $s'$  are spatiotemporally and causally related in way  $W$ , then  $s$  and  $s'$  are arranged same-lumpwise (where *being arranged same-lumpwise* is a relation that is instantiated when two collections of simples,  $s$  and  $s'$ , both of which are arranged lumpwise, are spatiotemporally and causally related in some way  $W$  where, according to composite fiction, being related in way  $W$  suffices for the existence of a persisting lump composed of  $s$  at the earlier time and  $s'$  at the later time).

*Pa(The Statue Cannot Survive a Squashing)*: Simples  $s$  arranged statuewise at  $t$  are such that if there are some simples  $s'$  at a later time  $t'$ , where  $t'$  is after a squashing, it is *not* the case that  $s$  is arranged same-statuewise with  $s'$  (where *being arranged same-statuewise* is a relation that is instantiated when two collections of simples,  $s$  and  $s'$ , both of which are arranged statuewise, are spatiotemporally



and causally related in some way  $W$  where, according to composite fiction, being related in way  $W$  suffices for the existence of a persisting statue composed of  $s$  and  $s'$  at the later time).

So, if simples  $s$  are arranged both statuewise and lumpwise at  $t$ , this entails that  $s$  are possibly related same-lumpwise, but not same-statuewise, to  $s'$  at  $t'$ , where  $t'$  is after the squashing. There is no inconsistency in this.

In sum, the nihilist has no motivation to accept *Pa(Supervenience)* because the idea that a single set of non-modal properties cannot ground two different sets of modal properties has no analogue when the situation is translated into talk of simples and the properties they collectively instantiate. That is, the composite-free facts entailed by *Supervenience* are unmotivated on a composite-free ontology. As such, the nihilist has no problem handling the composite-free analogue of the original puzzle.

Notice that the nihilist's ability to dissolve the statue/lump puzzle does not hang on the fact that McGrath formulates it using *Supervenience*.<sup>34</sup> The puzzle can also be framed as a conflict between, (a) the fact that *Statue*, *Lump*, *Same Parts*, and Leibniz's Law jointly entail that the statue and lump are distinct, spatiotemporally coincident objects, and (b) the intuitive idea that it is impossible for distinct composites to occupy the same place at the same time (Sometimes this latter intuition is motivated by concerns of overcrowding). However, the nihilist need not agree that the latter idea is factual, even if it is plausible within composite fiction. Here is the sentence and its paraphrase:

*No Coincidence*: Distinct composites cannot exist in the same place at the same time.

*Pa(No Coincidence)*: It is not the case that simples  $s$  can be arranged both  $F$ wise and  $G$ wise simultaneously, where  $F$  and  $G$  are either sortal terms or proper names, and the conditions under which a diachronic collection of simples is arranged persisting  $F$ wise is not the same as the conditions under which a diachronic collection of simples is arranged persisting- $G$ wise.<sup>35</sup>

*No Coincidence* is nonfactual (and its paraphrase is false) according to the nihilist because, as explained in response to Bennett, there is no inconsistency in simples being arranged both  $F$ wise and  $G$ wise (e.g., statuewise and lumpwise) simultaneously—the inconsistency is contained at the level of composite fiction.

That said, one might argue that it is a problem for the nihilist if she cannot provide true paraphrases of sentences like *Supervenience* and *No Coincidence*. As discussed earlier, the plausibility of nihilism rides on whether she can account for the fact that

<sup>34</sup> McGrath (2005, p. 469 n. 18) notes that he does not think his argument against the nihilist hinges on his particular way of posing the puzzle. He writes, “Nothing hinges on my particular account of what is vexing about the statue/lump puzzle. The reader is free to substitute her favoured account (perhaps one appealing to some intuition of ‘overcrowding’)”.

<sup>35</sup> In puzzles involving apparent spatiotemporal coincidence between composites of distinct kinds,  $F$  and  $G$  refer to kind terms. But in puzzles involving apparent spatiotemporal coincidence between composites of the same kind,  $F$  and  $G$  refer to proper names (e.g., Tib and Tibbles). The fact that the nihilist can deny the factuality of *No Coincidence* also enables the nihilist to dissolve Tib/Tibbles style puzzles, which is the sort of puzzle Nolan discusses when suggesting that some puzzles might rebound on the nihilist. See Nolan (2010).

thought and talk about composites tracks reality. Since *Supervenience* and *No Coincidence* are plausible within composite fiction—that is, even if they are not claims of ordinary thought and talk and so, not *part* of the fiction as I am understanding it, they are at least plausible when we take the fiction seriously and try to make sense of it—isn't it a problem for the nihilist if she cannot account for this by providing composite-free paraphrases that are just as plausible? If so, then while she can dissolve the composite-free version of the puzzle, it seems that her paraphrase strategy is inadequate. This seems to be what McGrath suggests in his framing of the challenge (see note 33).

No, this is not a problem for the nihilist. She does not need to say that every sentence that is true according to composite fiction, or that is made plausible by the fiction, is factual. In particular, she should not be expected to give a true paraphrase of any sentence that entails composite-free facts that are not motivated independently of the assumption that composites exist. Rather, the nihilist only needs to account for the fact that many references to composites reliably track real features of the material world. As discussed earlier, this is important because it distinguishes her view from the implausible position that thought and talk about composites is entirely disconnected from material reality. For example, the nihilist must be able to account for the (possible) factuality of sentences such as, “there is a tree in my backyard” and “Sue can build you a table”. However, she need not be able to give true paraphrases for sentences such as, “simples sometimes compose a further object”, “tables exist, but top-half-of-the-Eiffel-Tower-cum-tables do not”, or “distinct composites cannot exist in the same place at the same time”. While all of these sentences are either true according to composite fiction or plausible given what is true within the fiction, the nihilist is not under pressure to say that any of them are factual. The reason is that the composite-free facts they entail are motivated only given the assumption that composites exist. The first sentence, which amounts to the denial of nihilism, expresses a metaphysical claim that cannot even be expressed in composite-free terms. The second sentence entails composite-free facts that are motivated only given the assumption that composites exist. The third, which is *No Coincidence*, entails composite-free facts that are not motivated independently of our ideas concerning the nature of composites—in particular, ideas about their identity and individuation conditions. These ideas cease to apply—that is, they have no composite-free analogue—when composites are eliminated and all that exists are simples and the properties they jointly instantiate.

In order to solidify the point, it will be instructive to compare the following pair of sentences with *No Coincidence* and its paraphrase.

*Table*: There is a table in location *L*.

*Pa(Table)*: There are simples arranged tablewise in *L*.

While *Table* entails that composites exist, this metaphysical claim is a background assumption and not the main claim being expressed. Rather, the main claim being expressed concerns the presence and location of a particular composite object (i.e., a table). This claim is factual because all of the composite-free facts it entails obtain regardless of whether there are composites. The nihilist can thus agree that the original sentence tracks real, mind-independently grounded facts about the world despite being

false. In contrast, *No Coincidence* entails composite-free facts that are motivated only if composites exist. As explained above, there is no conflict between simples  $s$  being arranged statewise and lumpwise at  $t$  unless those simples compose objects with incompatible persistence conditions.

In the following section I apply the considerations of the foregoing sections to show how the nihilist can handle the composite-free analogue of the Ship of Theseus puzzle.

## 6 The Ship of Theseus

The story goes like this: The Ship of Theseus is made entirely of wooden planks. As time goes by, the older planks are slowly replaced. Over a period of 10 years, the ship undergoes *total* replacement of its planks. Call the ship with all new planks, “New Planks”. As it turns out, each plank that was removed was saved. Someone decides to reassemble them back into a ship according to the original blueprints. Call the ship composed of the old planks, “Old Planks”. Which ship, New Planks or Old Planks, is the original Ship of Theseus? They both seem to have a claim—one is spatiotemporally and causally continuous with it and the other has its original parts. But they cannot both be identical to the Ship of Theseus because they are not identical to each other—the transitivity of identity bars this possibility. The puzzle can be stated as an inconsistent set of sentences, each of which appears to be true:

*New Planks Wins*: New Planks = the Ship of Theseus

*Old Planks Wins*: Old Planks = the Ship of Theseus

*Different Ships*: New Planks  $\neq$  Old Planks

*Transitivity*: Identity is transitive

McGrath (2005, pp. 478–479) suggests that the nihilist will have as much trouble with the composite-free analogue of this puzzle as the believer has with the original. In order to evaluate this claim, let’s paraphrase the sentences to get the composite-free version of the puzzle. First, note that when it comes to the transitivity principle, the relevant sentence to be paraphrased is the transitivity principle *applied to this case*.

*Ship Transitivity*: If New Planks = Ship of Theseus, and Old Planks = Ship of Theseus, then New Planks = Old Planks.

Using the method of paraphrase I introduced in the previous section, the composite-free version of the puzzle looks like this<sup>36</sup>:

<sup>36</sup> In Sect. 4 I defined what it means for simples  $s$  and  $s'$  to be arranged same- $F$ wise when  $s$  and  $s'$  exist at different times and so, when according to composite fiction,  $s$  and  $s'$  compose objects that are *diachronically identical*. However, we can define the *arranged same- $F$ wise* relation more broadly as to include cases where  $s$  and  $s'$  exist at the *same time* and so, according to composite fiction, compose objects that are *synchronically identical*. This broader definition is needed in the Ship of Theseus case since *Ship Transitivity* says that if New Planks is diachronically identical to the Ship of Theseus and Old Planks is diachronically identical to the Ship of Theseus, then New Planks and Old Planks are *synchronically identical*. Here is a broader, disjunctive, definition of *arranged same- $F$ wise*: Simples  $s$  and  $s'$  are arranged same- $F$ wise if and only if *either*, (a)  $s$  exists at  $t$  and is arranged  $F$ wise,  $s'$  exists at  $t'$  and is arranged  $F$ wise, and  $s$  and  $s'$  are

*Pa(New Planks Wins)*: Simples  $s$  are arranged New-Plankwise at  $t$  and simples  $s'$  are arranged Ship-of-Theseuswise at some past time  $t'$ , and  $s$  and  $s'$  are arranged same-shipwise.

*Pa(Old Planks Wins)*: Simples  $s''$  are arranged Old-Plankwise at  $t$  and simples  $s'$  are arranged Ship-of-Theseuswise at some past time  $t'$ , and  $s''$  and  $s'$  are arranged same-shipwise.

*Pa(Different Ships)*: Simples  $s$  arranged New-Plankwise at  $t$  and simples  $s''$  arranged Old-Plankwise at  $t$  are *not* arranged (synchronously) same-shipwise.

*Pa(Ship Transitivity)*: If simples  $s$  arranged New-Plankwise are arranged same-shipwise with simples  $s'$  arranged Ship-of-Theseuswise, and simples  $s''$  arranged Old-Plankwise are arranged same-shipwise with simples  $s'$  arranged Ship-of-Theseuswise, then simples  $s$  arranged New-Plankwise and simples  $s''$  arranged Old-Plankwise are arranged same-shipwise.

As with the statue/lump puzzle, the paraphrased sentences remain jointly inconsistent. However, contra McGrath, the nihilist has resources for rejecting at least one of the paraphrased sentences in a way that is not available to the believer with respect to the original puzzle. In fact, I think that there are two different ways the nihilist can respond to the composite-free version of the puzzle: She can reject *Pa(Ship Transitivity)* or she can say that both *Old Planks Win* and *New Planks Wins* are indeterminate in their factuality status.

When the nihilist denies that composition occurs, she denies that there are composite entities that can persist or stand in diachronic identity relations. This changes the Ship of Theseus puzzle significantly because the relevant relation becomes *arranged same-shipwise* rather than *identity*, and the former need not have the same properties as the latter. While *identity* is reflexive, symmetrical, transitive, and (arguably) necessary, the same need not be true of *being arranged same-Fwise*—it is a different relation entirely.<sup>37</sup> The nihilist has no reason to reject the transitivity of identity, which is motivated independently of whether composites exist. However, cases like the Ship of Theseus provide her with a reason to reject the transitivity of *arranged same-Fwise*. If the composite fictional concept of a persisting ship really allows that both Old Planks and New Planks are identical to the Ship of Theseus, then this suggests that *Ship Transitivity* is not factual. Whereas it is highly problematic for

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Footnote 36 continued

spatiotemporally and causally related in some way  $W$ , and according to composite fiction, being related in way  $W$  suffices for the existence of a persisting  $f$  composed of  $s$  at the earlier time and  $s'$  at the later time OR (b)  $s$  is arranged  $F$ wise at  $t$ ,  $s'$  is arranged  $F$ wise at  $t$ , and according to composite fiction,  $s$  composes an object  $f$  at  $t$ ,  $s'$  composes an object  $f'$  at  $t$ , and  $f=f'$ . Notice that this definition is broad enough to account for *Old Planks Wins*, despite the fact that the simples arranged Old-Plankwise are arranged same-shipwise with simples arranged Ship-of-Theseuswise *via* being arranged “pile-of-plankwise” (or something like that) along the way.

<sup>37</sup> McGrath (2005, pp. 479–480) seems to think that the transitivity principle gets left alone when the puzzle is paraphrased. I certainly agree that the nihilist has no reason to deny the transitivity of identity, but the issue is that identity is no longer the relevant relation when we paraphrase the sentences—arranged same-shipwise is.

the believer to reject the transitivity of identity—in fact, almost all believers consider this a non-option—the theoretical reasons that make it problematic do not apply to the analogous nihilist principle. As such, the nihilist can say that *Ship Transitivity* is nonfactual and that *Pa(Ship Transitivity)* is false.

However, another option is that the nihilist can maintain that *Ship Transitivity* is factual and, instead, say that both *Old Planks Wins* and *New Planks Wins* are indeterminate in their factuality status. After all, it is plausible that the puzzle arises because the persistence conditions for ships, among many other ordinary objects, are not determinate. If this is so, then one diagnosis of the case is that the persistence conditions for ships underdetermine whether Old Planks or New Planks is the Ship of Theseus. The believer cannot easily make the analogous move because it seems implausible to say that identity is indeterminate: How could there be no fact of the matter about whether New Planks is the Ship of Theseus? However, for the nihilist, this is neither mysterious nor surprising—the indeterminacy is confined to our (composite-fictional) concept of a persisting ship.

## 7 Conclusion

In an attempt to make nihilism more palatable to our commonsense sensibilities, nihilists sometimes try to downplay the differences between their view and the believer's. They emphasize that while they deny the existence of composites, they still have the resources to make sense of talk about tables, trees, and people. Some philosophers have suggested that if this is true, then nihilists cannot solve many of the puzzles they purport to solve. The idea is that if nihilists really do have the ontological resources to provide true paraphrases of many positive composite-featuring sentences, then those resources will also saddle them with composite-free versions of the problems they claim to avoid.

I have argued that this is not so. The sorts of composite-featuring sentences for which the nihilist is under pressure to provide true paraphrases are very different from the sorts of composite-featuring sentences that are responsible for generating puzzles. In particular, the latter are metaphysically loaded in the sense that the composite-free facts that obtain if they are true are not motivated independently of the assumption that composites exist. So, while it may be possible for the nihilist to provide a composite-free paraphrase of each of the jointly inconsistent sentences that compose a metaphysical puzzle, it does not follow that each of the paraphrased sentences will retain the plausibility of the original. We saw this with *Pa(Supervenience)* and *Pa(Ship Transitivity)*. With this in mind, the fact that the nihilist can provide true paraphrases for composite-featuring sentences of everyday thought and talk does not provide good reason to think that she has retained the sorts of ontological commitments that generate the puzzles that plague believers.

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