

Why a Gunk World is Compatible with Nihilism about Objects

Ted Sider (1993) argues that nihilism about objects is incompatible with the metaphysical possibility of gunk and takes this point to show that nihilism is flawed¹. I shall describe one kind of nihilism able to answer this objection. I believe that most of the things we usually encounter do not exist. That is, I take talk of macroscopic objects and macroscopic properties to refer only to sets of fundamental properties, which are invoked as a matter of linguistic convention. This view is a kind of nihilism: it rules out the existence of objects; that is, from an ontological point of view, there are no objects. But unlike the moderate nihilism of Mark Heller (1990), Peter van Inwagen (1990) and Trenton Merricks (2002) that claims that most objects do not exist, I endorse a radical nihilism (following Mark Heller (2008)) according to which there are no objects in the world, but only properties instantiated in space-time. As I will show, radical nihilism is perfectly compatible with the metaphysical possibility of gunk. It is also compatible with the epistemic possibility that we actually live in a gunk world. The objection raised by Ted Sider applies only to moderate nihilism that admits some objects in its ontology. An object is made of gunk if it is composed of spatially atomless stuff: it divides infinitely into smaller and smaller spatial parts (or equivalently, in a four-dimensional view, into spatio-temporal parts).

The aim of Sider's argument is to show that "there are (or rather, might have been) situations in which 'objects' like tables and chairs are not composed of fundamental particles" (Sider, 1993). If this is the case, then it cannot be true that the grounding facts about macroscopic objects are fundamental particles. I will tackle Sider's claim that the metaphysical possibility of gunk is incompatible with nihilism. The problem is that Sider was evidently thinking only about the kind of moderate nihilists that endorse the existence of some fundamental objects (particles). But there is another class of nihilists who endorse the claim that there are no objects in the world, and properties are all there is. Both radical nihilists and moderate nihilists endorse mereological nihilism according to which composition never occurs. Where they part company is when it comes to the question of what ontological ingredients there are in the world. For moderate nihilists, it is particles (or particles plus spare properties), that is, objects. For radical nihilists, it is properties.

Evidently, radical nihilism relies on a robust ontology of properties. Properties are directly instantiated in space-time, and what we call objects are just conventions corresponding to sets of properties located in some space-time regions. This is the position Jonathan Schaffer (2009) labels supersubstantivalism. While Schaffer endorses a reductionist account of objects that identifies objects with space-time regions (supersubstantivalism of identity), there is also an eliminativist account of supersubstantivalism (eliminativist supersubstantivalism) which would appear to be the most attractive way of being a nihilist about objects for our purposes. It seems that Mark Heller (2008) in particular is advocating a view of this kind. I shall show how this version of nihilism, i.e., eliminativist supersubstantivalism, is immune to Sider's objection. To achieve this goal it is enough to show that a world that is both gunky and Eliminativist Supersubstantivalist (ES henceforth) is metaphysically possible. Indeed, if the paraphrase strategy is reliable both in an atomistic and a gunk world, and can account for our intuition that there are objects, then the account of ordinary objects remains neutral with respect to the presence or lack of mereological simples, understood as particles. Recall that it was precisely Sider's strategy to show that van Inwagen's paraphrases were not able to do the job in a gunk world. It follows that we have to demonstrate that in a gunk world a paraphrase strategy in terms of properties is more efficient than a paraphrase strategy in terms of particles.

I will show that in a gunk world, space-time regions are infinitely divisible into ever smaller parts, unlike properties that are good candidates for being mereological simples and support the role of grounding entities in paraphrases. It might be asked how a world without objects could be gunky,

¹ Sider has changed his mind on this topic and now endorses nihilism. He offers a different answer to the objection he raised in *Analysis*, based on a particular metaphysics of modality: modal deflationism. An advantage of my own proposal is that it remains neutral with respect to the metaphysics of modality. See his draft "Against Parthood" on his website.

if gunk theory is a theory about parts of objects. Nevertheless, there is a natural reply. In an ES world, a gunk view is now not a theory about parthood pertaining to objects and their parts, but a theory about parthood obtaining between space-time regions and their parts. The gunk view therefore shifts from an ontology of objects to an ontology of space-time. More precisely, as far as objects are concerned, we can freely choose which conventions we wish to employ, because objects are nothing but conventional and can therefore be defined either by using the concept gunky or the concept atomistic.

Paraphrases target sets of properties instantiated in the pattern of space-time, independently of what is the topology of space-time, that is, independently of how many property bearers there are in a definite volume of space-time. Radical nihilism, as we have interpreted it, is even compatible with the possibility that we may actually be living in a gunk world. Sider's argument is only threatening a weaker kind of nihilism, according to which some particles exist and play the role of grounding entities in paraphrases. By comparison, radical nihilism provides the resources for dealing with the metaphysical possibility of gunk and the epistemic possibility that we actually live in a gunk world. Not surprisingly, I suggest, therefore, the following thesis about the actual world: tables and chairs *do not exist* after all.

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