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Priority monism and part/whole dependence

Alex Steinberg

Abstract Priority monism is the view that the cosmos is the only independent concrete object. The paper argues that, *pace* its proponents, Priority monism is in conflict with the dependence of *any* whole on any of its parts: if the cosmos does not depend on its parts, neither does any smaller composite.

Keywords Priority monism · Dependence · Parts/wholes · Schaffer, Jonathan

In a series of articles Schaffer (2009, 2010, 2010, 2010, 2013) defends *priority monism*, the view that the cosmos, the whole all concrete things are parts of, is the one and only concrete object that depends on no concrete object (henceforth: *basic*). Priority monism entails that the cosmos is independent from its concrete parts, but appears to be noncommittal as to various plausible and widely held views concerning the dependence of less than maximal composites on *their* parts, e.g. atoms and the subatomic particles that make them up, or a violin and its corpus.[1] Schaffer (2010, p. 44) even claims that priority monism is compatible with priority relations running from the cosmos to the mereological atoms (if such there be), and from there upwards up until the wholes slightly less inclusive than the cosmos, rearranging the layers the priority *atomist* countenances by one as it were.[2] Such a mixed view might seem ideal, since it could incorporate both the Schafferian

[1] Simons (1987, p. 268) cites the former, Künne (1998, pp. 237f.) the latter as an example of (some form of) dependence of wholes on their parts.

[2] For the purposes of this paper, I take priority to be the converse of dependence, so that x is prior to y (and, thus, priority runs from x to y) just in case y depends on x.

A. Steinberg (✉)
Department of Philosophy, Johannes Gutenberg-Universität Mainz, 55099 Mainz, Germany
e-mail: alexander.steinberg@uni-mainz.de

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arguments for the basicality of the cosmos *and* intuitions about dependence relations between closer to home composites and their parts like atoms and violins. However, in this paper I argue that, *pace* Schaffer, there are good reasons for thinking that priority never runs from part to whole if priority monism is correct. Correlatively, whatever reasons one may have for thinking that some composites depend on some of their parts count against priority monism.

The argument is quite straightforward. It relies on three assumptions. First, if priority monism is true it is necessary. More precisely: if the cosmos is the only concrete object that is basic at the actual world, then every possible world w is such that, at w, the cosmos is the only concrete object that is basic at w.[3] Call this assumption *Necessity of Monism*. Second, dependence is not a contingent matter. More precisely, if some object o depends on some object o' at some possible world w, then at any world w' at which both o and o' exist, o depends on o'. Call this assumption *Internality of Dependence*. Note that Internality of Dependence does not entail Necessity of Monism, since possible worlds may differ in the composition of their cosmoi. Thirdly, composites could have existed in isolation. More precisely, every composite c that exists at the actual world is such that there is an (accessible) world whose concrete inhabitants are c and c's actual parts and nothing else.[4] Call this assumption *Isolation*.

The argument now runs as follows: Assume that (A) priority monism is true and suppose for *reductio* that (S) some composite c depends on one of its proper parts p. By Isolation, there is a world w that includes only c and its parts, among them p. By Internality of Dependence, since c and p exist at w, c depends on p at w. By (A) and Necessity of Monism, at w, the cosmos is the one and only basic concrete object. Since, at w, c = the cosmos, c does not depend on anything concrete at w, in particular not on p. Contradiction! We may thus deny our supposition (S) and discharge our assumption (A): if priority monism is true, no composite depends on any of its parts.[5]

What should we think of the three assumptions? Schaffer himself explicitly endorses Necessity of Monism (Schaffer 2010, p. 56): according to him, if monism

[3] For heuristic reasons, I present the argument with the help of Kripkean possible worlds machinery, presupposing that one and the same individual may inhabit different worlds. As a reviewer for this journal pointed out, it is unclear whether an alternative counterpart-theoretic framework would serve the argument as well. In particular, it is unclear whether there is a suitable counterpart relation with the help of which *any* non-trivial but true modal dependence thesis can be formulated. To this extent it is doubtful whether there are unproblematic counterpart-theoretic variants of the assumptions I will be using (in particular of Internality, to be stated presently). However, the assumptions are already plausible in their theoretically unloaded formulations in terms of what is and what is not necessary or possible (cf. fn. 11 below). Thus, *if* it should turn out that counterpart theory does not yield plausible renderings of the assumptions, I take this to be a shortcoming of the former rather than the latter.

[4] This is only a first stab at the principle required by the argument. It will be discussed and suitably restricted later in the paper.

[5] Given the fourth assumption that dependence is necessarily a well-founded partial ordering on the concreta, the stronger result that all proper parts depend on their wholes if priority monism is true can be established. Although Schaffer himself seems to be badly placed to deny this additional assumption about dependence structure (see Schaffer (2010, p. 37) for the corresponding assertion about the actual world), the well-foundedness condition is rather controversial, and plays no role in the argument in the main text.

is correct it is a metaphysical law. If something is metaphysically possible it is compossible with the metaphysical laws. Thus, if monism is correct, its negation is not metaphysically possible. Schaffer then uses Necessity of Monism in various arguments for priority monism (e.g. in the argument from the possibility of emergence and the argument from the possibility of gunk in Schaffer 2010, pp. 55ff.). Thus, at the very least, the priority monist would loose significant argumentative ground by giving up Necessity of Monism.

The second assumption is slightly harder to evaluate, mainly because of Schaffer's somewhat idiosyncratic primitive notion of dependence. According to Schaffer (2009), Schaffer-dependence may relate objects of any category—e.g. material objects as well as facts—generating a partial order of being. Other authors in the literature have divided this job between ontological dependence, which relates objects of any kind but may not partially order them, on the one hand, and so-called *metaphysical grounding*, which generates a partial ordering but mono-categorially applies to facts, on the other.[6] Though Schaffer frequently alludes to discussions concerning these more familiar notions, it is not quite clear how exactly Schaffer-dependence (which he somewhat confusingly often calls *grounding*) relates to them.[7] No matter: principles analogous to the Internality of Dependence are commonly taken to hold for both. If some facts $f_1, \ldots f_n$ ground a fact g, then it is necessary that $f_1, \ldots f_n$ ground g, provided that all of $f_1, \ldots f_n, g$ obtain.[8] For ontological dependence, consider the four main analysis-proposals on the market: (i) modal-existential; (ii) explanatory-existential; (iii) essential; and (iv) identity-conditional. On these analyses, roughly, a ontologically depends on b just in case (i) it is impossible for a to exist unless b exists (Simons 1987, §8.3); (ii) necessarily, if a exists, then there is some F such that (a exists, because b is F) (Correia 2005; Schnieder 2006); (iii) b figures in a's essence (Fine 1995); (iv) b figures in a's identity-conditions (Lowe 2010). By the S4-principle that what is necessary is necessarily necessary, we get that ontological dependence as spelled out by (i) and (ii) is internal in the relevant sense. By the plausible thought that what figures in one's essence or identity-conditions is not a contingent matter (provided all relevant objects exist), it can be seen that the essential and identity-conditional accounts of ontological dependence support internality as well. In short: all related notions support analogues of the internality principle.

Denying *Internality of Dependence* is thus an unattractive option for the priority monist. In the first place, it would cast doubt on whether we really understand the notion of dependence supposed to be in play here. And even if the priority monist

[6] See, e.g., Fine (1995), Correia (2005), Schnieder (2006), Lowe (2010) on ontological dependence, and Rosen (2010), Fine (2012), Correia and Schnieder (2012) on grounding.

[7] Schaffer (2010, p. 347) raises the possibility that Schaffer-dependence may be analysable as ontological dependence as spelled out by Fine (1995) or Lowe (2010). queryPlease check the publisher name of reference Lowe (2010). Recently, Jenkins (2013) argued that it should be explicated in terms of fact-grounding.

[8] See, e.g., P3 in Correia (2005, p. 61) of which the Necessity of Grounding is a straightforward consequence. Cp. also Fine (2012, pp. 76f.).

could—somehow—meet the explicatory challenge, he would then be exposed to a charge of changing the topic on her opponent.[9]

Finally, the third assumption receives intuitive support from our modal judgments in many cases: many a thing, it seems, could have existed *all by itself* (as long as its parts exist as well). If unsatisfied with this untutored modal intuition, we might try to run a sort of subtraction argument. This heap of sand, for instance, could have existed while that far away atom was missing (even if nothing else appeared). At the atom-less world, the heap could have existed with another far away atom missing, and so on until we reach a world at which only the heap and its parts exist.

Although the principle thus has some backing, it is very plausibly false in full generality. Though *some* composites are able to exist in isolation, many philosophers agree that others cannot. For instance, if Kripke (1980, pp. 112f.) is right, Elizabeth II. could not have existed without her parents existing. But then, there is no possible world that contains only her and her components, since, *per impossibile*, at that world her parents would not exist. Thus, *Isolation* as formulated is made false by Elizabeth.

However, *Isolation* is plausibly true for all objects that do not ontologically depend on concrete objects other than their parts. Heaps of sand are good candidates. Thus, priority monism is in conflict with such composites' depending on their parts. Further, there is an argument to the effect that even such wholes that are ontologically dependent do not depend on their parts if Priority Monism is true. For, suppose for *reductio* that Elizabeth depends on one of her components, her brain, say. Even though she could not have existed (let's assume) without her parents existing, a *duplicate d* of Elizabeth could have existed without Elizabeth's parents existing, and, plausibly, without anything other than its parts.[10] Consider any world *w* at which only *d* and its parts exist, including *b*, a duplicate of Elizabeth's brain. It would seem that the relevant relations of dependence should be preserved by duplication (dependence relations between part and whole seem to be intrinsic to the

[9] In a recent paper (Schaffer 2013, p. 81), Schaffer seems to come close to denying internality:

> [Independence] seems inessential. The monist can grant that her cosmic substance may be embedded in a larger whole, and then it would no longer be [independent]. Likewise, the pluralist who treats, say, a given electron as [independent] can grant that it may be divisible into smaller constituents, and then it would no longer (by her lights) be [independent]. And all sides can agree that a given mind is a dependent entity at a physicalist world, but that it may be [independent] at a dualist world.

Close, but not quite: the larger cosmos only exists at the non-actual world, so the actual cosmos' independence from it is consistent with Internality; likewise, the alleged possible parts of an actual atom do not actually exist, and, thus, Internality of Dependence does not guarantee the atom's dependence on them at the actual world. And *if* whatever a given mind depends on at the physicalist world, some brain say, does not exist at the dualist world, Schaffer's third case is not a counterexample against Internality of Dependence either. The case only conflicts with Internality of Dependence, if we further assume that both *one and the same* mind and *one and the same* brain exist at physicalist and dualist worlds. But, far from being acceptable on all sides, this assumption seems highly controversial.

[10] In any case, this is standardly assumed in discussions of supervenience in which reduplication principles of worlds like *Isolation* have played a prominent role. See, e.g., Paull and Sider (1992).

whole). In particular, since by supposition Elizabeth depends on her brain at the actual world, *d* depends on *b* at *w*. But *d* is the cosmos at *w*. Thus, according to the Necessity of Monism, if priority monism is true, *d* is independent of every concretum at *w*. Contradiction! If priority monism is true, Elizabeth does not depend on her brain. Again, this argument generalises. It replaces *Isolation* and *Internality of Dependence* by a duo of plausible principles (the possibility of isolated duplicates, and the preservation of part/whole dependence between duplicates). Thus, even though *Isolation* may well be false, (i) it applies in a restricted range of cases and (ii) a slightly more complicated argument can be run for all objects.

Is there any other way to get around the argument? Let me start by pointing out that the argument depends on no controversial assumptions regarding the underlying modal logic; in particular no constraints need be placed on accessibility.[11] The only step left at which the priority monist thus might wish to object is the identification of most inclusive wholes at isolation worlds with the cosmoi at such worlds.[12] Theoretical motivation for resisting the identification may stem from the thought that any possible cosmos is *essentially* a cosmos, and, thus, cannot be identical with an isolated but potentially embedded object at any world.[13] But while this move may promise to avoid the argument, it settles the priority monist with a highly controversial view about the nature of its central object, the cosmos. Let me start out by noting that the view is inconsistent with mereological extensionality: at *w*, *c* would be distinct from the cosmos, even though *c* and the cosmos have all the same proper parts. In fact, the *only* difference between *c* and the cosmos at *w* would seem to be a peculiar difference in their modal profiles: while *c* can coexist with objects that are not its parts, the cosmos cannot. It is one thing to deny extensionality to allow for statues and lumps,[14] it is quite another to accept objects such as the cosmos would have to be on this view. Which path is it supposed to trace through logical space? There seem to be two principled options: (i) it is compositionally robust and existentially fragile: a given cosmos only exists at worlds that do not differ in which concreta exist at them at all[15]; (ii) it is existentially robust but compositionally flexible: one and the same cosmos exists at every world, and at each world it has all other concreta as its parts (it is a compositional sponge). But then, at our isolation world, there either is an object coincident with *c* that couldn't have existed had there been *any* difference in the existence roster of the world. Or

[11] In the main text our assumptions are framed directly in terms of possible worlds. This could have been avoided in favour of the following replacements:

A1 If priority monism is true then it is necessary that priority monism is true;
A2 For any *x*, *y*, if *x* depends on *y*, then necessarily, if *x* and *y* exist, *x* depends on *y*.
A3 For any concrete composite *c* and any of its concrete parts *p*, it is possible that (*p* is a part of *c* and the only existing concreta are *c* and its parts).

The resulting argument may be shown to be valid in the weakest normal modal logic **K**. (To be sure, the subtraction argument for A3 relies on the transitivity of the accessibility relation.)

[12] Thanks to an anonymous referee for pressing me on this point.

[13] The quotation in fn. 9 above shows that Schaffer would not attempt to take this way out.

[14] The locus classicus is Gibbard (1975).

[15] Cp. Cameron (2008, pp. 413ff.).

there is an object coincident with *c* such that for *any* possible contingently existing concretum *x* it could have had *x* as a part and it could have failed to have *x* as a part. Both options are metaphysically rather bizarre, to put it mildly. If the cosmos is required to have such an unusual modal profile, it is a nontrivial question whether priority monism's central object exists at all. It can hardly be argued for on the basis of classical mereology or by appeal to its recognition by science or the folk, as Schaffer (2010, pp. 34f.) does.

I conclude that, given plausible principles, if priority monism is true, no whole depends on any of its parts. This, it appears, is a heavy burden for priority monism. While the question of the priority of a very special whole, the cosmos, is somewhat remote and to that extent up for grabs, other questions of dependence are much closer to home. As alluded to in the beginning, philosophers have cited the proton of a particular helium atom and the corpus of a particular violin as plausible examples of dependence. Arguably, some form of whole/part dependence also underlies what philosophers of science classify as *mechanistic explanations*, and to which they accord central importance in the special sciences (see e.g. Gillett 2007, p. 161).

The mixed view could agree with these verdicts. I have argued in this paper that the mixed view is not viable, however. Either atoms do not depend on subatomic particles and violins do not depend on their resonance bodies, or priority monism is false.

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