

# What is priority monism? Reply to Kovacs

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**Abstract.** Priority monism is the view that the cosmos is the basic concrete entity on which each of its parts depend. Kovacs has recently argued that none of the classical notions of dependence could be used to spell out priority monism. I argue that four notions of dependence – namely rigid existential dependence, generic existential dependence, explanatory dependence, and generalised explanatory dependence – can indeed be used to spell out priority monism, and specify the conditions under which this is possible.

One intriguing question is: which is prior – the whole or the parts? Jonathan Schaffer famously answers that the whole is – and by that he means the *ultimate* whole, the whole concrete cosmos. The view according to which the cosmos is the basic concrete entity and everything else depends on it is called by Schaffer (2010) ‘priority monism’.

How should we make sense of notions such as priority, dependence, and basicness that are crucial in defining priority monism? Schaffer himself makes use of a notion, which he calls ‘dependence’ (Schaffer 2010, 37). Given that in the recent literature several notions of ontological dependence have been distinguished, an obvious move would be to identify

Schaffer's dependence with one of them.<sup>1</sup> However, David Kovacs (2020) has argued that none of them would do, in that the kind of priority monism they yield would bring untenable consequences. The question is important, insofar as a good part of the literature on priority monism has so far evolved under the assumption that priority monism should, or at least could, be spelled out in terms of one of these notions of ontological dependence.<sup>2</sup> In this paper, I argue that Kovacs's reasons can be resisted, and clarify the conditions under which priority monism could still be spelled out in terms of the classical notions of dependence. After rehearsing what priority monism is (§1), I present Kovacs's arguments against identifying Schafferian dependence with four notions of dependence present in the literature (§2), and then explain under what conditions such arguments can be resisted (§3).

## § 1 Schaffer's priority monism

Schaffer's primitive pieces of ideology are an individual constant  $u$  for the cosmos, a binary relation  $D$  for his notion of dependence and the usual binary parthood relation,  $P$ . Schaffer takes the dependence relation  $D$  to be a strict order, i.e. irreflexive, asymmetric, transitive, and to be also well-founded. He takes it to be topic neutral, in the sense that he assumes «that this relation can hold between entities of arbitrary category», though he also cautiously

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<sup>1</sup> On ontological dependence, see (Tahko and Lowe 2020). Scholars who take Schaffer's dependence to be ontological dependence include Trognon (2013), Steinberg (2015), Tallant (2015), Calosi (2020). On the varieties of ontological dependence, see (Tahko and Lowe 2020) and § 2 below.

<sup>2</sup> For example, Steinberg' (2015) criticism makes use of the classical varieties of dependence to argue in favour of the premises of such criticism. A second example is Calosi (2020) who argues that priority monism entails the negation of a principle called isolation, according to which 'for any composite object  $o$  that exists at  $@$ , there is a possible world  $w$  such that the only concrete objects that exist at  $w$  are  $o$  and its parts' (Calosi 2020, 2).

adds «or at least, I assume that this relation can hold between actual concrete objects, which are my current concern» (Schaffer 2010, 36).

Schaffer assumes the existence of a maximal concrete object, i.e. the whole cosmos  $u$ , such that all concrete objects are parts of it. More precisely, he then takes a concrete entity to be any part of the cosmos (Schaffer 2010, 38)

### **Concreteness**

$$Cx := Pxu$$

He then mixes the introduced notions of concreteness and dependence to yield a notion of dependence restricted to the realm of concrete entities. A ‘basic entity’, in this sense, is a concrete entity that is independent from any concrete entity (Schaffer 2010, 38)

### **Basicness among concreta**

$$Bx := Cx \wedge \neg \exists y (Cy \wedge Dxy)$$

Armed with these notions, Schaffer is finally able to define priority monism as the view that there is only one basic entity, and that entity is the cosmos (Schaffer 2010, 41):

### **Priority monism**

$$\exists! x (Bx \wedge Bu)$$

Given the well-foundedness and transitivity of D, it follows from monism that every part of the cosmos depends on it. Indeed, given well-foundedness and transitivity, every concrete entity is either basic or ultimately dependent on some basic concrete entity. By monism, the cosmos is the only candidate to be that entity on which every concrete entity other than the cosmos ultimately depends (Schaffer 2010, 42).

## § 2 Kovacs on Schafferian dependence

How should we make sense of Schaffer's notion of dependence? An obvious move would be to identify Schaffer's dependence with what in the recent literature is called 'ontological dependence'<sup>3</sup>. Indeed, in his 'What is priority monism?', David Kovacs follows in the footsteps of authors such as Steinberg (2015) and Calosi (2020) in considering classical analyses of the notion of dependence, yielding notions such as rigid existential dependence, explanatory dependence, generic existential dependence, as possible candidates for interpreting Schaffer's notion. However, Kovacs offers reasons to discard them all, and claims that Schaffer's dependence cannot be 'conveniently identified with any of the specific relations familiar from the specialized literature on ontological dependence' (Kovacs 2020, 2876). More in detail, Kovacs lists the following candidates and explains why he believes they cannot be what Schaffer has in mind.

### **Rigid existential dependence**

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<sup>3</sup> On ontological dependence, see (Tahko and Lowe 2020). Scholars who take Schaffer's dependence to be ontological dependence include Trogdon (2013), Steinberg (2015), Tallant (2015), Calosi (2020).

$x$  rigidly existentially depends on  $y$  iff necessarily, if  $x$  exists then  $y$  exists.

A typical example would be the dependence of sets on any of its members: necessarily, if the set exists, then the given member exists as well.

Why cannot Schaffer's dependence be rigid existential dependence? Kovacs here makes two points. First, priority monism implies that every part of the cosmos depends on it. If Schaffer's dependence is rigid existential dependence, this implies that (i) no part of the cosmos – such as for example David – 'could exist without the particular mereological sum that is the cosmos' (Kovacs 2020, 2876). The same point was already highlighted by Calosi (2020, 5). Second, Schaffer takes the parts of so-called integrated wholes – that is, wholes that display a significant degree of unity, such as a human being – to depend on said wholes. If Schaffer's dependence is rigid existential dependence, this implies that (ii) no part of an integrated whole could survive the destruction of that whole.

How are these two points supposed to show that Schaffer's dependence is not rigid existential dependence? In Kovacs's words (2020, 2876), (i) and (ii) are 'highly implausible (...); nor is there anything in Schaffer's work to suggest that he would accept [them]. Therefore it's reasonable to conclude that by "dependence" he doesn't mean rigid existential dependence.'

Kovacs takes this conclusion to have further important implications. If Schaffer's dependence is not rigid existential dependence, then *a fortiori* neither is any of the notions of dependence that are stronger than it, of which he mentions **essential**, **identity** and **explanatory dependence**. Why does the holding of such relations imply rigid existential dependence? Let us see just one example which will turn out to be relevant later.

### **Explanatory dependence<sup>4</sup>**

$x$  explanatorily depends on  $y$  iff necessarily, if  $x$  exists then some fact involving  $y$  partly grounds the existence of  $x$

Suppose that  $x$  exists and explanatorily depends on  $y$ . Hence, necessarily, some fact involving  $y$  grounds the existence of  $x$ . Given the factivity of grounding, and supposing that involvement in facts is existence entailing (or, more weakly, that involvement in facts which ground the existence of something is existence entailing), then necessarily, if  $x$  exists then  $y$  exists. Hence, explanatory dependence is indeed stronger than rigid existential dependence. Again, a similar point was made by Calosi (2020, 9), who, focussing on the explanatory role that  $\#$  is supposed to have under priority monism, also offers several reasons why the fact concerning  $\#$  which would partly ground the existence of any of its parts should entail the existence of  $\#$ .

A third candidate notion considered by Kovacs is generic existential dependence:

### **Generic existential dependence**

$x$  generically existentially depends on  $y$  that is  $K$  iff necessarily, if  $x$  exists then some  $K$  exists.

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<sup>4</sup> Kovacs does not mention a definition of explanatory dependence, but points towards Steinberg (2015: 2027), Tallant (2015: 3107–3108), and Calosi (2020) which offer this definition. Moreover, as we are about to see, this interpretation explains why Kovacs takes explanatory dependence to be stronger than rigid existential dependence.

A typical example would be an Aristotelian universal depending on any of its exemplifiers: necessarily, if redness exists, then there is something that exemplifies it.

Kovacs explains that interpreting Schafferian dependence in this way does not solve the second problem of rigid existential dependence, for if Schaffer takes my parts to depend on me as a human being, then none of my parts could survive the destruction of all human beings. More generally, he claims that it would be difficult to identify ‘a kind *K* I fall under that couldn’t lose all of its members consistently with the right half of my pinky finger staying in existence’ (Kovacs 2020, 2876).

It is worth pointing out that in the literature on priority monism, it is usually assumed that dependence could be defined in modal terms (Tallant 2015, Steinberg 2015, Calosi 2020). Kovacs is no exception on this as we have seen above. This modal approach to dependence has certainly an important pedigree (Simons 1987, 295). However, the contemporary consensus in the specialised literature seems rather to be that this modal approach is doomed to fail (Thako and Lowe 2020). The reasons are similar to the ones routinely mentioned to reject modal definitions of grounding. Take for example rigid existential dependence. Given the modal definition offered before, it would follow that e.g. Socrates rigidly existentially depends on his singleton, given that, as a matter of necessity, if Socrates exists, then his singleton does. However, intuitively, Socrates does not rigidly existentially depend on his singleton. Hence, the modal definition should be rejected. Nor would it help, of course, to downplay the definitions insisting that they are merely meant to be principles stating necessary and sufficient conditions. Insofar as they are sufficient, the problem would still be there, and Socrates would still rigidly existentially depend on his singleton. The conclusion that this literature wants us to draw is that modal approaches to grounding and dependence

should be rejected – a conclusion that seems also to be closer in spirit to Schaffer (2010) who takes dependence to be a primitive and uses it interchangeably with grounding.

Still, the mere rejection of modal definitions of dependence would not solve the problems raised by Kovacs. Indeed, it is routinely assumed that even if ontological dependence cannot be defined in modal terms, still it has modal upshot. In that spirit, the modal and grounding principles mentioned above could be taken to state insufficient but necessary conditions for the relevant kind of dependence to hold. For example, in the case of rigid existential dependence, the principle would merely say that *if  $x$  rigidly depends on  $y$ , then, necessarily, if  $x$  exists then  $y$  exists*. Insofar as these are taken to be necessary conditions for ontological dependence, Kovacs's conclusions remain untouched.

### § 3 Schaffer's dependence as ontological dependence – a few viable options

I am now going to argue that Kovacs's arguments can be resisted, and that priority monism can still, under specific conditions, be formulated in terms of rigid existential dependence, generic existential dependence, or explanatory dependence. The possibility of formulating varieties of priority monism in terms of classical notions of dependence is not only a result in itself. It also has further ramifications when it comes to arguments casted against priority monism. A first case of said ramifications concerns Steinberg's (2015) argument to the effect that priority monism entails the priority of any whole on any of its parts. Such argument relies on three premises, one of which (namely Internality of Dependence) relies in turn on the assumption that Schaffer's dependence might be identified with one of the classical notions of dependence (Steinberg 2015, 2027). A second case concerns Calosi's (2020) reply to Steinberg. Calosi's reply relies indeed on the possibility of formulating priority monism in terms of rigid existential or explanatory dependence, insofar as the resulting formulations of

priority monism are argued to imply the falsehood of one of Steinberg's premises, namely Isolation (Calosi 2020, 5-10).

Let us start with **rigid existential dependence**. Kovacs's point goes as follows. (i) In other possible worlds the actual cosmos does not exist. But if Schaffer's dependence is rigid existential dependence, then (ii) in those worlds, actual parts of the cosmos – such as David – cannot exist either. And (iii) this is too implausible for being what Schaffer has in mind. There are at least two ways to resist this conclusion. First, here Kovacs is relying on the idea that in some other relevant possible worlds the actual cosmos does not exist. But are there really such worlds? Why believing that the cosmos – the actual maximal concrete entity – does not exist in such worlds as well? One might think that given that the cosmos is a mereological sum of all concrete entities, and given that mereological sums necessarily have the parts that they have, the absence in another world *w* of any concrete entity that exists in our world would imply that in *w* our actual cosmos does not exist either. However, the idea that mereological sums necessarily have the parts that they have is debated (van Inwagen 2006, Sanford 2011). And even if we grant that this is the case for mereological sums, one might take this point to be evidence for the priority monist that the cosmos is not a mere mereological sum of its parts. While Kovacs introduces the cosmos as a mereological sum<sup>5</sup>, Schaffer avoids this bottom-up approach in introducing the cosmos<sup>6</sup>. Rather, as we have seen, Schaffer introduces the cosmos directly, by means of an individual constant, and adopts

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<sup>5</sup> More precisely, he takes 'the cosmos' to be a shorthand for the definite description 'the most inclusive mereological sum' (Kovacs 2020, 2873).

<sup>6</sup> Later (Schaffer 2010, 34), Schaffer mentions that classical mereologists would consider as evidence of the existence of the cosmos the fact that classical mereology would recognise the existence of a fusion of all concrete entities. But this is not intended as a definition of the cosmos given that, as we have seen before, Schaffer proceeds in the opposite direction and takes concreteness to be defined in terms of the cosmos.

a top-down approach in his definition of concreteness: to be concrete is just to be part of the cosmos. (After all, one might believe that this top-down approach fits better with a view according to which the cosmos is the only basic entity.) Either way, the cosmos could exist in the other relevant possible worlds, and so, in principle, could David: Kovacs's allegedly problematic consequence of priority monism is avoided.

The idea that the actual cosmos might exist in worlds in which actual parts of it do not has already been discussed in the literature on monism. In Steinberg's words, this requires the cosmos to be 'existentially robust and compositionally flexible' (Steinberg 2015, 2029). Still, Steinberg himself point out a possible problem with this approach. Consider a world  $w'$  in which David exists, but he does so 'alone', in the sense that no other concrete entity disjoint from David exists. In such a world, the cosmos  $u$  of *our* world  $w$  would not exist. If  $u$  existed at  $w'$ , given that David is the maximal concrete entity,  $u$  would be identical with David. But this is impossible, for in our world  $w$ , David is different from  $u$  and, given the necessity of identity, in no world David is identical with  $u$ . So we should conclude that David could not exist 'alone'. Notice that one might take this point – in a Kovacsian spirit – to be an argument against interpreting Schaffer's dependence in terms of rigid existential dependence. Steinberg's point hinges on a crucial premise, that is, that if  $u$  existed in  $w'$  it would be identical with David. Why should we accept this premise? One reason might be because we believe in mereological extensionality (Steinberg 2015, 2029; see also Calosi 2020, 6-7). For sure, if  $u$  existed in  $w'$  it would share all parts with David, and vice versa. If extensionality holds, this indeed implies that David and  $u$  would need to be identical to exist at that world. However, once again, this only shows the incompatibility for a priority monist among (a) priority monism, (b) the claim that Schaffer's dependence is rigid existential dependence, and (c) the possibility for David to exist at  $w'$ . Steinberg suggests to reject (a) and Kovacs would probably suggest to reject (b). However, this might just as well be taken by the priority monist who

wants to interpret his dependence as rigid existential dependence to be evidence that mereological extensionality should be rejected.

Here is the second way to resist Kovacs's conclusion. Kovacs takes the consequence that parts of the actual cosmos could not exist in other possible worlds too implausible to be what Schaffer has in mind – point (iii) above. Kovacs reiterates this point about integrated wholes: it is too implausible to say that the right side of my pinky finger would not survive my destruction. I am not persuaded by the point concerning the right side of my pinky finger, and a consequence I am not persuaded by the same point applied to the cosmos of a priority monist. Let me start with the case of my pinky finger. Typically, those who believe that integrated wholes are prior to their parts do indeed believe that such parts could not survive the destruction of said wholes. Aristotle, for example, held that an eye could not survive its being severed from the body in which it exists. When severed, it would lose its function, and an eye which cannot perform its function is not a veritable eye anymore. It would be an eye only 'homonymously', that is, it could still be called an eye, and could look like an eye, but it would not be an eye, and would be numerically different from the eye that existed before (*De Anima* II, 1, 412b25). In other words, the eye could not exist without performing its function, which is part of its nature. But the eye cannot perform its function without being in the body. So, it seems that someone who believes in the priority of integrated wholes on their parts would not be persuaded by Kovacs point about the right side of my pinky finger. Consequently, they would not be persuaded by his point concerning the cosmos and its parts. Indeed, Schaffer himself insists that the priority monist should conceive of the cosmos as an integrated whole, in which the nature of the parts is determined in relation to the whole<sup>7</sup>. As

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<sup>7</sup> For example, in his 'Spacetime the one substance', he claims 'I will defend the identity view, which identifies material objects with spacetime regions (...) the parts of spacetime exist as individuals in virtue of their position within the whole'.

such, we should expect parts of the cosmos to fail to exist without it – David, for example, would not exist in worlds where our cosmos does not exist. Something else might exist in his place. That counterpart of David might look and think like David, but if the cosmos is an integrated whole, that thing will not be identical with David after all. Accordingly, such a priority monist would not be worried about the alleged possibility of David’s existing ‘alone’, for David owes its existence and nature to its position within the system composed of the concrete entities from which it is disjoint. Consequently, such a priority monist, unlike the previous one, would not need to reject mereological extensionality.

Let us now pass to **generic existential dependence**. To recall, Kovacs argues as follows. It is implausible to identify Schaffer’s dependence with generic existential dependence, or the right side of my pinky finger would not survive the annihilation of the human race. More generally, Kovacs says that ‘it is hard to think of any kind I fall under that couldn’t lose all of its members consistently with the right half of my pinky finger staying in existence’. If this argument might seem to work well in the case of my pinky finger, it seems less effective in the case of the cosmos and its parts. To see why, consider that if  $x$  generically depends on  $y$  that is  $K$ , then necessarily, if  $x$  exists then some  $K$  exists. What could such  $K$  be in the case of priority monism? Following once again Calosi (2020), it could simply be ‘being the mereologically maximal concrete element’<sup>8</sup>. This will simply entail that in any world in which

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<sup>8</sup> Apart from this simple proposal, I think this question should be addressed carefully by a priority monist who would like to make use of generic dependence. One possible worry with this proposal is that ‘being the mereologically maximal concrete element is no real, or natural, kind term, for entities in different worlds might fall under it even though there is no intrinsic similarity between them (I am grateful to Claudio Calosi for raising this point). I see two possible replies here. First, while Kovacs assumes that generic dependence relations involve a kind term under which the prior entity must fall, others assume it to involve a simple property (Thako and Lowe 2020). After all, some of the paradigm

David exists, also a mereologically maximal concrete element will exist. Unlike rigid dependence, this interpretation of dependence does not commit the priority monist to a modally flexible conception of the cosmos or a modally rigid conception of David. The cosmos might just be a mereological sum of all, and only the, concrete entities, and not exist in worlds which feature a different set of concrete entities. And David might exist in worlds where the actual cosmos does not exist. Moreover, if a priority monist wishes to follow Schaffer in claiming that parts of integrated wholes depend on such wholes, but also wishes to avoid Kovacs's objection, one viable option is to go pluralist about dependence: the case of the pinky finger would then plausibly involve rigid existential dependence, while the case of the cosmos would involve generic existential dependence, as explained above.

Finally, let us consider **explanatory dependence**. To recall, Kovacs's point goes as follows. Explanatory dependence is stronger than rigid existential dependence. Hence, it entails the same problematic consequences of its rigid counterpart. Once again, here is the definition that Kovacs likely has in mind

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examples of generic dependence do not seem to involve kinds. Aristotelians take universals such as redness, to mention one example, to depend on something exemplifying redness, which is plausibly no kind but a simple property. Still, one might insist that the property should be natural, and thus go hand in hand with intrinsic similarity. If that's the case, another option could be to find a different attribute than Calosi's 'being the mereologically maximal concrete element'. For example, one might go for a property which concerns the physical configuration of the cosmos. This option would fit nicely with Schaffer's argument from quantum emergence.

## Explanatory dependence

$x$  explanatorily depends on  $y$  iff necessarily, if  $x$  exists then some fact involving  $y$  partly grounds the existence of  $x$

The definition makes explanatory dependence stronger than rigid existential dependence insofar as the fact involving  $y$  entails the existence of  $y$ . Still, one might wonder why the definiens is supposed to have the modal force it has. For sure, this definition can be found in the literature on priority monism, for example in Steinberg (2015) and Calosi (2020). It is also a definition that can be found in the specialised literature on grounding to which Steinberg and Calosi refer, namely in Correia (2005) and Schnieder (2006). Still, on closer look, this is not the only definition proposed by Schnieder. In fact, he points out that there might be different notions of dependence, which differ in modal force. The one outlined before is defined ‘rigid explanatory dependence’. Another one, which he calls ‘generalised explanatory dependence’, is designed not to carry with it any modal force (409). The same move is reiterated by both Correia and Schnieder in a later joint publication. After presenting the generalised notion of explanatory dependence, they add that ‘[v]ariations of the right-hand side (which may, e.g., have a modal force or involve relativizations to times, can be formulated for different members of the family of concepts of dependence’ (Correia and Schnieder 2012, 25).

## Generalised explanatory dependence

$x$  explanatorily depends on  $y$  iff if  $x$  exists then some fact involving  $y$  partly grounds the existence of  $x$

This generalised definition is supposed to take care of contingent cases of dependence. Indeed, nothing in the definition seems to entail that the existence of a dependent entity requires the same grounds across possible worlds. Which is exactly what would be useful to have in the case of priority monism. David exists in this world, and in this world depends on the actual cosmos. However, this relation of dependence is contingent: David might also exist in other worlds, and in other worlds it might depend on whatever cosmoi exist at those worlds. Or it might depend on something else, or on nothing at all.

To better specify what priority monism is supposed to be, we should also be able to identify the fact involving the cosmos which grounds the existence of parts of the cosmos such as David. Calosi (2020) suggests that this fact might be that the cosmos is an integrated whole. This proposal makes priority monism to entail that the fact that the cosmos is an integrated whole grounds the existence of David. I see a possible reason for scepticism about this proposal. The fact that the cosmos is an integrated whole, which is supposed to ground the existence of David, does not necessarily imply it. Maybe the cosmos could be an integrated whole even without David. Hence, this proposal entails a failure of the principle called grounding necessitarianism – according to which if a fact is fully grounded in some facts, then in every world in which the latter exist, also the former is going to exist. I think problem can easily be solved. First, one might insist that there are good reasons for believing that grounding necessitarianism is false (Skiles 2015). Second, one might point out that grounding

necessitarianism concerns full grounding, and not partial grounding – for sure partial grounds do not necessitate what they ground – whereas the definition of explanatory dependence involves partial ground only. In any case, there are serious alternatives to Calosi’s proposal. For example, the fact involving the cosmos which grounds the existence of a specific part might be a more specific distributional property (Parsons 2004), possessed by the cosmos, and which might necessitate the existence of any of its specific parts. Given the contingency of this kind of dependence, this would not require cosmoi in other worlds to have the same distributional property for the specific part to exist. More generally, it is worth noting that this fourth version of monism avoids all commitments of the previous versions. The cosmos need not be conceived as highly mereologically flexible, and parts of it might exist in worlds where it does not. No specific kind should be identified which is possessed by the cosmos and plays a role in its parts’ depending on it. A different fact involving the cosmos might be identified for grounding the existence of each specific part of it in each specific world.

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