



Physicalism, Foundationalism, and Infinite Descent

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Received: 1 September 2022 / Accepted: 3 June 2023
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Abstract

This paper contributes to answering the question how physicalism can be defined for a world without fundamental physical phenomena. In a recent paper in this journal, Torin Alter, Sam Coleman, and Robert J. Howell propose a necessary condition on physicalism. They argue that physicalism is true only if there is no infinitely descending chain of mentally constituted phenomena. I argue that this alleged necessary condition faces counterexamples. An infinitely descending chain of mentally constituted phenomena is compatible with physicalism. Afterwards I propose a simpler definition of physicalism that does not fall prey to my counterexample.

1 Introduction

How can physicalism be defined for non-foundationalist worlds without a fundamental basis of physical phenomena that constitute all other phenomena?¹ Barbara Gail Montero has first argued that infinite chains of mental descent can be troublesome for definitions of physicalism (see Montero 2006).² The putative necessary condition a world has to meet for physicalism to be true in it that I will discuss in this paper has been proposed in Alter, Coleman, and Howell. It reads as follows:

¹ Alter, Coleman, and Howell seem to use ‘constitutes’ and ‘grounds’ indiscriminately when they write that their ‘solution invokes the notion of constitution (or grounding)’ (Alter, Coleman, and Howell, 5). I will not discuss the relation between constitution and grounding in this paper and employ the notion of constitution across the board.

² Montero is aware that a chain can be infinite and still bottom out in something fundamental. She holds that ‘there could be infinite descending sequences of decompositions, with fundamental entities below them all’ (Montero 2006, 179). She later writes that the thesis of physicalism should be ‘inconsistent with such infinite mental descents (that never bottom out in the non-mental)’ (Montero 2006, 185). Taking the part in parentheses into account, I am not sure whether it is fair to say that Montero claimed infinite mental descents to always be incompatible with physicalism (as Alter, Coleman, and Howell claim; see Alter, Coleman, and Howell, 2). Given that my focus will be the proposal of Alter, Coleman, and Howell, this question can remain unanswered.

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- ‘*No Low-Level Mental Constitution*. Physicalism is true only if there is neither (a) fundamental mentality nor (b) an infinite descent of mentally constituted mentality – that is, an infinite descent of phenomena that are constituted by mental phenomena’ (Alter, Coleman, and Howell: 7).³

The novelty of this proposal is that it does not ban any infinite descent of mentality, but only infinite descents of *mentally constituted* mentality. An infinite descent is mentally constituted iff the mentality of the lower level entities play an essential role in (or are indispensable to) bringing about the higher level mentality.⁴ This addition has been made to allow that the following world described by Christopher Devlin Brown is classified as physicalistic:

‘Alex is made of many interacting components, call them Bretts. Collectively all the Bretts, through their interactions, generate Alex’s mentality. But also each Brett is mental, for the same reason Alex is. (...) [E]very entity has high compositional complexity – every Brett has many parts, call them Charlies, which cause the Brett to be mental in virtue of the Charlies’ interactions. And the same story goes for each Charlie which is composed of little Devins, and so on infinitely’ (Brown 2017, 1346).

The dialectically relevant feature of Brown’s world is that the mentality of Alex, the Bretts, the Charlies, and so on is not mentally constituted. The mental features of, say, the Charlies are irrelevant for constituting the mental features of the Bretts. It is only in virtue of their causal interactions that the Charlies play a role in bringing about the mentality of the Bretts. That the Charlies themselves have mental properties plays no role in the constitution of the Bretts’ mental properties. Brown claims that for this reason the scenario might plausibly be classified as physicalistic. Alter, Coleman, and Howell agree (and so do I). *No Low-Level Mental Constitution* allows for this classification, for it only bans infinite descents of mentally constituted mentality.

In this paper I will provide a counterexample to condition (b) of *No Low-Level Mental Constitution*.⁵ This counterexample will be presented in the following second section. In the third section I will propose a definition of physicalism that does not fall prey to this counterexample.

³ I am unsure whether Alter, Coleman, and Howell wish to provide a definition of physicalism or just a necessary condition a physicalistic world has to meet (as the formulation ‘only if’ seems to indicate). There is no need to decide, for I will argue against the necessary condition for physicalistic worlds given by *No Low-Level Mental Constitution* as it stands.

⁴ A referee suggested that one might read Alter, Coleman, and Howell as claiming that a downward chain of constitution counts as an infinite descent of mentally constituted mentality only if it is not bound by something non-mental from below (no non-mental phenomena constitute all phenomena in the chain). They at least not explicitly mention this further condition and it is worthwhile to show that their proposal faces counterexamples if this condition is omitted.

⁵ See Brown 2020 for a putative counterexample against condition (a).

2 Physicalism with Infinite Descent

In this section I will argue that there is a possible world such that (i) in the world there is an infinite descent of mentally constituted mentality and (ii) physicalism is true in the world. This establishes that the absence of an infinite descent of mentally constituted mentality is not a necessary condition for physicalism.

As a warm up, I will present a world familiar from the debate on the definition of foundationalism. This world is structurally analogous to my counterexample. It has been described by Gabriel Oak Rabin and Brian Rabern in their Rabin and Rabern (2016). A central feature of this world is that space is fundamentally made up of unextended points. These points constitute all regions of space. Rabin and Rabern now consider the following sequence of (pluralities of) regions:

‘Let s be a spherical region of [s]pace. Let s_1 be a plurality consisting of two hemispheres whose union is s . Let s_2 be the four quarter spheres generated by halving each hemisphere of s_1 . The union of the quarter spheres of s_2 will be s . Let s_3 be the eight eighth spheres generated by halving each quarter sphere of s_2 . Let s_n be the (...) regions generated by halving all the regions of s_{n-1} .’ (Rabin and Rabern 2016, 361; see their fig. 4 for a visual illustration)

Rabin and Rabern, who cast their definition in terms of grounding, use this world to show that infinitely descending chains of ground can occur in worlds that are ‘well-founded’ in ‘a clear sense’ (Rabin and Rabern 2016, 361). For my purposes it is important to observe that the world involves an infinite descent of extended regions that are constituted by extended regions in a way such that the extendedness of the constituting regions is crucially involved in accounting for the extendedness of the constituted regions. For example, the shape of a given hemisphere is clearly due to the shapes (and locations) of the quarter spheres that constitute it.

The spatial foundationalist who takes every region to be constituted by points should be ready to allow for such an infinite descent. The physicalist who believes that a base of physical phenomena constitutes all mental phenomena should analogously be ready to allow for infinitely descending chains of mentally constituted mentality, or so I will argue in what follows.

Alter, Coleman, and Howell convincingly claim that many mental phenomena are mentally constituted. They give the example of ‘a visual experience of the American flag [that] is arguably constituted partly by experiences of seeing red, seeing white, and seeing blue’ (Alter, Coleman, and Howell, 7). It seems at least conceivable that visual space is gunky in the following sense: Every visual experience of a region in the visual field being red is constituted by the visual experience of proper subregions of the given region being red. In such a scenario, every visual experience of a red region is constituted by further experiences of red regions. These cases of experience are clearly mentally constituted. Accordingly, we arrive at an infinitely descending chain of mentally constituted mentality.

Is it also conceivable that in a world with such a gunky visual field there is a purely physical foundation that constitutes all mentality? The following

consideration seems to suggest a negative answer: Assume that all mental phenomena are ultimately constituted by the structural/dynamical properties of (and relations between) some smallest objects. Then there would be a point where we would have reached the level of these objects and thereby the maximal fineness of grain of the visual field, or so the worry goes. In response, I maintain that a world with a gunky visual field and a purely physical foundation is possible if the physical foundation is itself gunky. There is no smallest level of objects whose structural/dynamical properties constitute all mentality, all structural/dynamical phenomena are themselves constituted by structural/dynamical phenomena on a smaller scale. The mentality (e.g. the visual field) constituted by this gunky physical foundation inherits its gunkiness from the physical phenomena that constitute it. As a consequence, there is a clear sense in which not all mental phenomena are on par, their respective constitution bases occur on different levels of resolution in the gunky physical foundation.⁶

Such a world in which a purely physical foundation constitutes an infinitely descending chain of mentally constituted mentality should be categorized as a world in which physicalism holds. That every mental phenomenon is constituted by a fundamental physical base should count as sufficient for physicalism.

It would be *ad hoc* to maintain that a world with such a physically constituted gunky visual space is impossible. Surely, in the world every experience of a red region is constituted by infinitely many experiences of smaller regions. A gunky visual field requires some sort of mental infinity and a gunky physical foundation requires an infinity of entities. Such infinity might not actually exist and, in the case of infinite mentality, there might be reasons to hold that no minds like ours that result from natural evolution exhibit this feature. Still, I see no reason to deem such a world as metaphysically impossible. Alter, Coleman, and Howell hold that ‘it is widely accepted that the content of the physicalist thesis is determined partly by its consequences for other conceivable (and possible) worlds’ (Alter, Coleman, and Howell: 4) and Brown argues that ‘we should be seeking to have a notion of physicalism applicable to non-actual worlds’ (Brown 2017, 1340). Accordingly, strange possible worlds inhabited by infinite minds are regarded as dialectically relevant for the present discussion.

Summing up, a world in which a purely physical foundation constitutes an infinitely descending chain of mentally constituted mentality (i) is possible, (ii) should be categorized as a world in which physicalism holds, and (iii) is categorized as non-physicalistic by condition (b) of *No Low-Level Mental Constitution*. It hence constitutes a counterexample to *No Low-Level Mental Constitution*.

⁶ I thank an anonymous referee for discussion. Those readers who have residual doubts about the ideal conceivability of this scenario might still agree that its *prima facie* conceivability motivates not holding one’s definition of physicalism hostage to its impossibility.

3 Defining Physicalism

Alter, Coleman, and Howell propose *No Low-Level Mental Constitution* after discussing the thesis that physicalism is incompatible with mentally constituted mentality. They discard this latter thesis on grounds of the flag example quoted above. The example shows that cases of mentally constituted mentality do not rule out physicalism. But it does not tell against the following proposal:

- *Non-mental constitution.* Physicalism is true if and only if every mental phenomenon is non-mentally constituted.

To clarify, for a mental phenomenon to be non-mentally constituted in the relevant sense, there has to be something entirely non-mental that entirely constitutes it (fully constitutes its mentality). This proposal is simple, but it takes care of the discussed cases. In Brown's original counterexample, the mentality of Alex is non-mentally and fully constituted by the interactions between the Bretts, the Bretts' mentality is fully non-mentally constituted by interactions between the Charlies, and so on. The scenario is hence rightly categorized as physicalistic. Once we modify Brown's example such that the constitution of mentality is always mental constitution, the modified world gets rightly classified as non-physicalistic (see the discussion of *MPW** in Alter, Coleman, and Howell: 5f). The world of my counterexample is also classified as physicalistic, for in that world every mental phenomenon is non-mentally constituted by the fundamental base of physical phenomena. Of course, every mental phenomenon in this world is *also* mentally constituted. Nevertheless, its mentality can be fully constituted by only taking recourse to the physical base.⁷

Furthermore, the general idea underlying *Non-mental constitution* seems plausible: Physicalism does not require the absence of mental constitution, it only requires that mental phenomena are non-mentally constituted. Whether there are cases of mental constitution and whether they descend infinitely or not is irrelevant as long as we can always point to something that non-mentally constitutes the relevant phenomena.

In proposing *Non-mental constitution* I tacitly assume that constitution is transitive. If it is not, the requirement might be too strong. If a mental phenomenon x is non-mentally constituted and x mentally constitutes further phenomenon y , then this should be compatible with physicalism. The mentality required for mentally constituting y is itself non-mentally constituted and hence unproblematic for physicalism. If you hold that constitution is not transitive, then the proposal should be modified as follows: Let 'constitution*' stand for the transitive closure of constitution. Now the following definition (which coincides with *Non-mental constitution* if constitution is transitive) can be given:

⁷ Something can entirely constitute some phenomenon without including everything else that constitutes it. A model of the Eiffel tower made of matches is entirely constituted by (i) the matches and the way they are glued together as well as by (ii) atoms and how they relate to each other. A description of the constitution base only involving matches does not have to involve anything about atoms and a description of the constitution base only involving atoms need not speak about matches.

- *Non-mental constitution** Physicalism is true if and only if every mental phenomenon is non-mentally constituted*.

There might be reasons to object to *Non-mental constitution** that I cannot discuss in this paper.⁸ Nevertheless, it clearly constitutes progress when compared to *No Low-Level Mental Constitution* and it takes care of cases that arise due to infinite chains of mental constitution.

Acknowledgements I wish to thank two reviewers for very helpful comments that significantly improved this paper.

Funding Open access funding provided by University of Bern.

Declarations

Competing interests No funding was received to assist with the preparation of this manuscript. I have no competing interests to declare that are relevant to the content of this article.

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⁸ For example, the definition does not seem to be able to handle Brown's counterexample against condition (a) of *No Low-Level Mental Constitution* mentioned in footnote 4. *Non-mental constitution** is structurally similar to Montero's P2 (see Montero: 2006: 185). Montero critically discusses her P2. Some of the discussion might carry over to *Non-mental constitution**.