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Articles

The Structure and Dynamics Argument against Materialism Revisited

Grįžtant prie struktūros ir dinamikos argumento prieš materializmą

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Abstract: Alter (2016) elaborates and defends an ambitious argument advanced by Chalmers (2002) against physicalism. As Alter notes, the argument is valid. But I will argue that not all its premises are true. In particular, it is false that all physical truths are purely structural. In denying this, I focus not on the objects of pure physical theory but on the homely, macroscopic objects of our daily lives.

Keywords: The structure and dynamics argument, physicalism, dualism, thought-experiments, *a priori* entailment, explanatory gap, structural truths.

Summary: Alteris (2016) papildo ir gina ambicingą Chalmerso (2002) teiginį, nukreiptą prieš fizikalizmą. Anot Alterio, šis argumentas yra galiojantis. Bet šiame straipsnyje teigiama, kad ne visos šio argumento prielaidos yra teisingos. Norima pabrėžti, kad prielaida, esą visos fizinės tiesos grynai struktūrinės, yra klaidinga. Paneigiant šias prielaidas, straipsnyje susitelkiama ne į grynos fizinės teorijos objektus, bet į mūsų kasdienybę ženklinančius ir mums artimus, makroskopinius objektus.

Keywords: Struktūros ir dinamikos argumentas, fizikalizmas, dualizmas, mintiniai eksperimentai, a priori sąlygojimas, aiškinimo plyšys, struktūrinės tiesos.

In his "Consciousness and Its Place in Nature" (2002), Chalmers had sought a unifying pattern to the challenges to materialism raised by Mary-the-scientist, the explanatory gap, and the conceivability of zombies.

Briefly, recall what challenges these posed to materialism. First, Mary the scientist can't deduce what she learns about redness, when she first consciously sees it, from what she had known about the physical substrate of redness (Jackson 1982). Secondly, consider the explanatory gap: even if we could identify a mental state or event with its physical correlate, the identification, and ascertaining we are in the requisite physical state, would jointly fail to *explain* why we are also in the corresponding mental state (Levine 1983). Thirdly, what the possibility of zombies indicates (if that possibility obtains) is that there may be creatures who have the same cognitive functional architecture as we do, yet lack consciousness, which would seem to suggest that consciousness cannot be fully characterized in functional terms (Chalmers 1996).

What do these challenges to materialism share? Chalmers writes:

> These three sorts of argument are closely related. They all start by establishing an epistemic gap between the physical and phenomenal domains. Each denies a certain sort of close epistemic relation between the domains: a relation involving what we can know, or conceive, or explain. In particular, each of them denies a certain sort of epistemic entailment from physical truths P to the phenomenal truths Q: deducibility of Q from P, or explainability of Q in terms of P, or conceiving of Q upon reflective conceiving of P. (Chalmers 2002: 250)

Alter's (2016) paper – "The Structure and Dynamics Argument against Materialism" – is a lucid exposition, exploration and defense of this ambitious argument advanced by Chalmers against materialism about the mind. For a first pass, Alter formulates the argument as follows:

> 1. All physical truths are purely structural.
>
> 2. From purely structural truths, one can deduce only further purely structural truths.
>
> 3. Some truths about consciousness are not purely structural.
>
> 4. Therefore, there are truths about consciousness that cannot be deduced from (i.e., are not a priori entailed by) the complete physical truth. (Alter 2016: 795)

In what follows, I will discuss this version of the argument.[1] If the argument were to succeed, then various challenges (Mary, zombies, the explanatory gap) would all undermine materialism for a principled and common reason, viz. (4). However, I will argue that, while the argument above is valid, it isn't sound because premise (1) is false.

Before evaluating its premises, I start by narrowing down the target of the argument. Only type C materialism is a proper target of Alter and Chalmers' argument. To see this, it helps to have Chalmers' (2002) classification between types A, B, and C of materialism in view. Type A materialism (e.g., Churchland 1979, Dennett 1991) is eliminativist about consciousness, holding that either the scientific project of accounting for consciousness is largely completed, or else consciousness is an illusory property. Either way, there is no ontic or epistemic gap between consciousness and physical properties. So type A materialists would deny (3) that "some truths about consciousness are not purely structural," for some suitably physicalist meaning of "structural." So Alter and Chalmers's argument couldn't target them without begging the question on (3).

Consider now type B materialists, who think there is an epistemic gap between consciousness and physical properties, but there is no ontic gap. It is, in Tye's (1995) view, metaphysically necessary that consciousness supervenes on the physical, even if this cannot be fully explained in terms of our current conceptual repertoire, and Mary's case or zombies can be imagined. Alter and Chalmers' argument doesn't threaten such a view because it *endorses* conclusion (4). It can do so because the existence of an epistemic (as opposed to ontic) gap suffices to grant that consciousness truths aren't deducible from physical truths.[2]

If only type C materialism can be a proper target of Alter and Chalmers' argument, why is that so? Type C materialists hold that the epistemic gap between phenomenal and physical truths is bridgeable by ideal science, though not by current science. As Chalmers (2002) describes them,

> Nagel (1974) has suggested that just as the pre-Socratics could not have understood how matter could be energy, we cannot understand how consciousness could be physical, but a conceptual revolution might allow the relevant understanding. [And] McGinn (1989) has suggested that the problem may be unsolvable by humans due to deep limitations in our cognitive abilities, but that it nevertheless has a solution in principle.

Both type C materialism, and Alter and Chalmers, rely on the idea of a *completed science*. This surfaces in the argument in phrases like "the complete physical truth" and "all physical truths." Type C materialists think completed science will vindicate physicalism. Its opponents think it will not. This helps with the hard problem of consciousness because, the thought goes, the explanatory gap is bridgeable at the end of inquiry, when we will have the right concepts to grasp the metaphysical necessity of how consciousness relates to physical properties.

On the construal of the concept of structure advocated by Chalmers (2015), (1) involves a partial *Ramsey-sentence* of a physical theory,[3] which functionalizes all terms except for mathematical expressions, and perhaps a few fundamental physical magnitudes (e.g., mass and spin). *Completed* physical science, on this view, would include *only* structural truths (per (1)) in the sense that all its truths

would boil down to mathematical constructions out of these few fundamental magnitudes. But consciousness, the thought goes, cannot be functionalized away in this sense (per (3)). So, as (4) puts it, some truths about consciousness could not be *a priori* deduced from structural physical truths.

This understanding of Alter and Chalmers' argument already offers an objection that I will develop. In order for the argument to work against type C materialism, it needs to apply to ideal completed science at the end of inquiry. Whatever the structural truths of completed science may be,[4] they must differ from the truths we hold about "the middle-sized dry goods" of daily life, as Austin called them, such as cherries and bowls.

Take a simple statement like "A bowl of cherries is on the table." Suppose this is true. Cherries and bowls are physical objects; so this is a physical statement. A structural-dynamic translation of this statement would have to be made in the language of elementary particles, fields, and the like.[5] Now ask: Is there a way to translate this statement without remainder? I believe not.[6] Failing the ability to translate statements like "A bowl of cherries in on the table" in the language of fundamental physics (however idealized and completed), it follows that (1) is false: not all physical truths are structural.[7]

There's nothing obviously structural about cherries or bowls. Absent an adequate structural description of the macroscopic physical objects of our day to day life, framing the issue of dualism in Alter and Chalmers' way leads to assimilating important dualisms, like that between mind and matter, to spurious dualisms, like that between cherry bowls and their microphysical constituents. If the mind-body dualism were no more principled, or unbridgeable, than "cherry-bowl dualism" (to use Alter's apt phrase), then the argument (1)-(4) clearly fails to capture why the explanatory gap is troubling, starting from our conceptual repertoires and metaphysical leanings to date.

Helpfully, an anonymous reviewer suggested that my take on the argument is mistaken since I'm simply begging the question against Alter and Chalmers on (1). This was revealing, for I intended no such thing. Consider an analogy. Prior to any theoretical endeavors, we are all (I hope) tempted to think that our pets, small furry cats and dogs, aren't robots. It is, however, quite possible for a freshman in the grip of Descartes' views to think that such animals *are* robots. To be sure, although one proposition believed is the negation of the other, there is a significant burden of proof that Descartes' follower must meet, which the advocate of ordinary thought need not. To rebut the everyman by telling them they are simply begging the question against the Cartesian is to make much of dialectic, and little of sound thought. That, I believe, applies here as well.

I argued that premise (1) in the structure and dynamics argument against materialism is false. That doesn't imply materialism is true. One may still be persuaded by individual thought-experiments against materialism, and their attendant arguments: Mary the

scientist, possible zombies, or the explanatory gap for consciousness. The fact that different thinkers find themselves moved by some – and only some – of these arguments should have warned us against the chances of unifying these anti-materialistic challenges into a master-argument.

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Notes

1 Various revisions and refinements are called for to improve the argument, which Alter operates. However, my critique of this argument remains virtually unchanged revisions added, and so it seems best to keep the simpler version of the argument in mind, since this seems closest to Chalmers' initial line of thought.

2 Against type B materialism, Chalmers (2002) and Alter (2016) both gesture towards Chalmers' two-dimensional logic. That use requires separate defense, and I find myself broadly sympathetic to an alternative 2D logic, that of Davies and Humberstone (1980); Dever's (2007) comments point in a similar direction. However, I grant Alter and Chalmers' move here for the sake of argument.

3 Originating in Ramsey (1931).

4 This formalistic view on which completed science is a set of truths closed under logical consequence (or *a priori* entailment) does injustice to what science looks like *now.* Some mechanistic philosophers (e.g., Craver 2006) sees current neuroscientific research as building partial and inaccurate models of discovered mechanisms, with little attention to the logical properties of carefully formulated textbook theory. To simply assume problems of current science will go away in the ideal future is less than ideal.

5 At the very least, this challenge should bring out how radical (1) is. Ontic structural realists (cf. Zahar 2004) will characterize laws of motion and the like as structural. But they shy away from claiming that *all* physical truths are structural. Ontic structural realism is silent about bowls of cherries, it only speaks of mass, spin, and the like.

6 Stories could be told about such possible translations. Choose a geometry; then identify volumes in that space, and assign them various attributes (mass, color, etc.). One may insist this may be done, with tedious (and, in principle, infinite) specification of detail. However, once one grants that details to be specified are infinite, it is clear that the task cannot be completed by mortals like us.

7 One might try to save (1) by saying that "bowl of cherries" is *a predicate* which applies to a certain distribution of elementary particles. Perhaps *no* property is expressed by this predicate. Or perhaps it is a universal, hence an abstract object, hence not a worry for physicalists. Either option implies an unpalatable eliminativism about the objects of common sense (bowls, cherries, tables, etc.) which the philosopher might debate, but the layperson will discard without a blink. Either

option would fail to address the historically genuine problem of dualism, which does have a grip over us.