Australasian Journal of Philosophy ›
Volume 85, 2007 - Issue 2

Original Articles

Realization and the metaphysics of mind1

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Pages 233-259 | Received 01 Feb 2005, Published online: 29 Jul 2010

Cite this article https://doi.org/10.1080/00048400701343085

Abstract

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Notes

[1]I have had the pleasure of discussing this paper and its ancestors with many people. I am especially grateful to Tom Bontly, José Luis Bermúdez, Carl Craver, Eric Funkhouser, Carl Gillett, John Heil, Jaegwon Kim, Michael Lynch, Brendan O'Sullivan, Larry Shapiro, John Symons, Gene Witmer, and Chase Wrenn. I would also like to thank the anonymous referees for this journal, and audiences for versions of this paper that were presented at the American Philosophical Association, Southern Society for Philosophy and Psychology, the Society for Philosophy and Psychology, the University of Cincinnati, and Washington University in St. Louis. Work on this paper was supported in part by the Charles P. Taft Research Center at the University of Cincinnati.

[2]I am aware that there have been, over the years, many discussions of realization in the context of explicating one or another particular theory [e.g., Field 1978; Heil 1992; Tye 1994; Chalmers 1994; 1996]. However most of these discussions, upon examination, either say nothing at all about realization itself (instead focusing on the question of whether, given system A is a realization or realizer of F, a similar system B is also an F realization or realizer), focus on particular cases only, or else explain realization by analogy with some case that is assumed to be uncontroversial—usually computer programs being realized by machines.

[3]Of course if RP is correct then it may be that Sally (or some part of her) realizes the belief that it is raining. But that is not what is asserted by (1) on its face. I suppose one might ar realized in her) the o be saying somethi h her behaviou mple, we would st than realized

[4]There ealization acco potential to obtain, t dependency. A mothe ild to come into beir sic rather than inte living tree and a ch s not usually describe he chair, though usually we say that the parts compose the chair. Even in that sense it seems

odd to say that the tree ‘realizes’ the chair. After all, the tree does not compose the chair, even if the chair is composed of (part of) the material which composes or composed the tree. Compare: this large bean bag realizes a chair, or this tree (fallen in the forest) realizes a bench. The beanbag and the fallen tree do seem to be apt to realize chairs or benches in the way that RP understands realization. This kind of realization involves a relation sometimes described as ‘playing a role’. The beanbag and the fallen tree play the role of providing seating. The standing tree does not. We might change the tree (by cutting it down) and subsequently it could realize a bench. Or (by sawing it, milling it, and so forth) we could manufacture a chair from some of the material from the tree. These changes are sufficiently radical that we might seriously question whether the tree is still in existence. If not, then it is certain that the tree does not realize the chair in the RP way, for realization is typically supposed to be contemporaneous and nondestructive. Yet even if the tree survives it would be odd to claim that the tree itself realizes a chair. Maybe chairs are realized by trees, but this would at least be a contentious case of realization.

[5]I am grateful to Eric Funkhouser for pressing me to make these features explicit.

[6]For the moment I'll stick with the weaker claim that an account of realization need not endorse examples like (1) and (2). A stronger claim would be that there are some cases of ‘realization’ that should not be counted by an account of realization that is suitable for RP. In

[8]Gillett's ws:

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hand, if to s, why

does it matter whether the entities that instantiate F1 – Fn are parts of s so long as they are capable (somehow) of contributing powers to s?

As a matter of fact, I am willing to grant that when A1 – An compose B, then B gets its powers from A1 – An. But, first, that is no explanation of how composition works. And, second, I do not suppose that this relation explains realization. In contrast, Gillett appears to be helping himself to the very relation that he hoped to explain: the relation between the properties of some thing(s) and those of a distinct object whose properties they realize.

[7]I mention this in part because 'instantiate' is sometimes used as a synonym for 'realize' among advocates of RP; also, 'implement' and 'occupy [the role of]' seem to be used interchangeably with 'realize' by many philosophers. For example, Kim writes, 'We are constantly reminded that any mental state, say pain, is capable of "realization", "instantiation", or "implementation" in widely diverse neurological structures' [1992:1].

Because Gillett requires that realization be a relation between property instances, his account is prima facie at odds with talk about the realization of states (e.g., pain), events (e.g., edge detection), processes (e.g., adding), or objects (e.g., carburetors). This is not a problem with Gillett's view on which I will dwell. I am prepared to allow that the difference is only superficial and could be finessed; although I doubt that Gillett himself would welcome the finessing. But it is worth noting that Kim, for example, talks about th ther he or Shoema s view may depart fr

[9]This ex izer of hardnes of individual atoms.

[10]I ta P. Regarding kinds of

[11]Kim [1

[12]There s, between abstract am focusing on abstr computational functions are not abstract in the appropriate way, then think of

mathematical functions instead. They, too, are sometimes said to be physically realizable. More on this shortly. (See also n. 18.)

[13]Note that Cummins and Van Gulick each use ‘instantiate’ as a synonym for ‘realize’ rather than in Gillett's more restricted way.

[14]Versions of this idea are explored by Sellars [1997], Davidson [2001a; 2001b], Dennett [1971; 1984], and McDowell [1994], among others.

[15]Melnyk [2003] does not require that realization involve having only a causal function. Lewis [e.g., 1970] regularly discusses causal realization (in particular, regarding theories of mind) but his general account is not limited to realization of causally individuated roles.

[16]This is especially attractive if one wants to maintain a hard nosed variety of physicalism. But in the present context it is useful to remember that Putnam was quite clear that non-physical properties could in principle be realizers.

[17]See Polger 2004b.

[18]I will continue to use the computational example because it is salient in philosophy of mind. But if computational relations are not abstract in the relevant sense, then recall that we could also make the point with other examples of formal or non-causal realized properti

[19]This ob everal anonym also n. 12, above.

[20]As Fod states can be carrie dels the orga l states with which ps formal states of physical state tha

[21]Gillett n scientific theorizin pursuing ‘empiric rmine that scientists do speak of ‘realization’ in their explanations, the lesson of Section I is that

we cannot assume that the scientific use of ‘realization’ corresponds to the relation invoked by RP.

[22]For this reason, I take issue with Gillett's claim that realization should be understood as a fundamental metaphysical relation.

[23]Does a carburetor realize the air-fuel mixer in a car, or do its parts? (Or is the air-fuel mixer's realization overdetermined? Is there a realization exclusion problem?) Let us for now set aside the question of when to invoke the inter-level clause in the dimensioned view.

[24]We will return to this topic when we consider how Gillett treats cases of multiple realization, in §VI, below.

[25]This account originates in Polger [2004a]. A similar account of realization is offered in Melnyk [2003].

[26]Following Gillett, I have formulated (R) as a relation among properties or states. Two remarks are in order. First, there is no problem in reformulating (R) in terms of entities, or in terms of entities and properties. This will help us to make sense of the RP practice of talking about the realization of entities, as when we say that a carburetor realizes the air-fuel mixer. (Otherwise we must say that an instance of carburetorness realizes an instance of air-fuel mixerness, which is at least awkward.) A related point concerns Gillett's [illegible] perties. If F$_G$(x) nar[illegible] entity kind picked o[illegible]plementing that fun[illegible] kind. For that rea[illegible] object. This explanat[illegible]ment’ and ‘occu[illegible]

[27]On t[illegible] so causal realizati[illegible] function; if so, some[illegible] There is nothing [illegible]rguments, or taking n[illegible]eing a binary st[illegible]ave the

function of orbiting one another. (Such an account may make for good explanations even if it does not make for good ontology.)

[28]To be precise, the individuating function for Millikan's ‘proper’ functional entities does not involve current causal powers (either of the thing or of its parts), but instead involves the causal history of the thing. The crucial point is that being a heart (realizing an entity of the kind, lion heart, say) has nothing to do with what causal powers an entity currently has—for lion hearts can fail to have the causal powers that are typical of lion hearts (they can be broken) and some things that have those powers (‘twin’ or ‘swamp’ lion hearts) can fail to be hearts.

[29]As Searle puts it: ‘For any program there is some sufficiently complex object such that there is some description of the object under which it is implementing the program. Thus for example the wall behind my back is right now implementing the Wordstar program, because there is some pattern of molecule movements which is isomorphic with the formal structure of Wordstar. But if the wall is implementing Wordstar then if it is a big enough wall it is implementing any program, including any program implemented in the brain’ [1990: 27].

[30]In both variations, we will need to help ourselves to an expansive notion of causal function according to which all of a thing's causal powers contribute to its function. Shoemaker [1984] argues that such a functional characterization of all properties can be given[illegible] he calls CTP-func[illegible]rgue against a[illegible]pain of making t[illegible]

[31]For mo[illegible]

[32]In th[illegible]er: They say that [illegible]e ‘realized’) in differe[illegible]

[33]If we a[illegible]multiply realized)[illegible]ome possible[illegible]

[34]I am g[illegible]

[35]For the purposes of evaluating multiple realizability we are concerned with the extensions of kinds, so accidental or in-world coextension may not be enough to settle the question. We may have to know about the distribution of the kinds under certain counterfactual conditions.

[36]Gillett defends the dimensioned view from the charge that it makes MR trivial by counting any physical differences in realizers as cases of MR. He offers the example of two aluminium corkscrews which differ only in that one contains ‘a trace element’ that ‘does not chemically bond with the aluminum or change the metallic structure of the aluminum atoms, but it does absorb a certain wavelength of light giving this corkscrew a yellow tinge’ [2003: 598 – 9]. He rightly concludes that the dimensioned view need not count these as case of MR, for the presence of the trace element is irrelevant to the causal powers that the parts contributes to the corkscrew. But I wonder whether this case only works because this element does not chemically bond with the aluminium, and thus is not a genuine part of the corkscrew but merely an imperfection in it. If the element bonded with the aluminium (creating an aluminium alloy) then would this not be just like the aluminium/steel example, and would the dimensioned view not have to claim that this was a different realization of the corkscrew? I do not see how Gillett can avoid this result.