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Abstract: This comment discusses Kaidesoja (2013) and raises the issue whether his analysis justifies stronger conclusions than he presents in the book. My comments focus on four issues. First, I argue that his naturalistic reconstruction of critical realist transcendental arguments shows that transcendental arguments should be treated as a rare curiosity rather than a general argumentative strategy. Second, I suggest that Kaidesoja's analysis does not really justify his optimism about the usefulness of causal powers ontology in the social sciences. Third, I raise some doubts about the heuristic value of Mario Bunge's social ontology that Kaidesoja presents as a replacement for critical realist ontology. Finally, I propose an alternative way to analyze failures of aggregativity that might better serve Kaidesoja's purposes than the Wimsattian scheme he employs in the book.

Keywords: Critical realism; Transcendental argument; Causal power; Emergence; Social ontology.

The critical realism movement has been remarkably influential in the social sciences, especially when it is contrasted with the rather limited impact of the mainstream philosophers of science. It seems that critical realism has been able to provide a brand and a philosophical package that has resonated with social scientists. The core ideas of critical realism appear to be close to the scientific common sense: realism, causal powers, and the idea of mechanism-based explanation. Thus it has provided a natural alternative to various "postmodernist" positions that have been highly visible over last three decades. Further, the fact that many of the prominent critical realist have been social scientists themselves

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have made it more acceptable. While social scientists are often quite willing to borrow the authority of some well-known philosophers, they do not like to be preached to by analytical philosophers who seem to be more home with humanities and natural sciences, rather than the social sciences proper.

However, from the point of view of present day philosophy of science, critical realism seems to have some worrisome features. When the movement was emerging in the seventies, it adopted and incorporated much of the up-to-date philosophy of science especially from the work of Rom Harré (Harré 1970; Harré and Madden 1975). However, since then the movement seems to have become quite insulated from developments in philosophy of science. Consequently, the present-day critical realism seems to be a mix of some half-developed, but possibly valid, ideas and some highly obscure elements. This situation makes Tuukka Kaidesoja's book highly relevant. His attempt to naturalize critical realism opens new debates between critical realism and the more mainstream philosophy of science. Even more importantly, it introduces to the philosophically oriented social scientists many philosophers who have been mostly working in the confines of philosophy.

In the following, I will present some critical comments on *Naturalizing Critical Realist Social Ontology*. My comments are not so much criticisms of the presented arguments, but rather questions about the overall implications of the book. I will start with a question about the role of transcendental arguments in social ontology, then proceed to the fruitfulness of ontology of causal powers and finish with some worries about Bungean ontology and emergence.

1 Reconstructing Transcendental Arguments

One of the main contributions of the book is Kaidesoja's demystification of the abundant transcendental argumentation in critical realism in chapter 4. Since Bhaskar's first book, transcendental arguments have been a characteristic feature of critical realism. In fact, it is often presented as a feature that sets it apart from mainstream philosophy. However, the nature and scope of these arguments has always remained a bit obscure and the individual arguments rather sketchy. Kaidesoja's discussion is extremely useful for anyone interested in transcendental arguments presented by critical realists. He basically argues that the only reasonable way to reconstruct the realist ontological arguments is to regard them as inferences to the best explanation rather than a special kind of transcendental arguments. In these naturalistic ontological arguments both the premises and conclusions are fallible.

While I share the naturalistic spirit of Kaidesoja's approach, I have my doubts about his proposed replacement for the transcendental arguments. He suggests that the general form for justifying naturalistic critical realist arguments is the following:

1. X is an epistemically successful scientific practice described on the basis of empirical analysis of the practice.
2. It is hypothetically (and in the explanatory sense) a necessary condition of the epistemic successfulness of practice X under description that the ontological structure of the world (or some of its aspects) really is as described in propositions $P_1, ... P_n$.
3. Propositions $P_1, ... P_n$ are compatible with the ontological commitments of current scientific theories which have stood the test of critical evaluation by the relevant scientific community.
4. The explicit ontological propositions or implicit ontological presuppositions of competing philosophical positions, say $Q_1, ... Q_n$ are incompatible with propositions $P_1, ... P_n$ and the epistemic successfulness of X under our description remains impossible or unintelligible from the point of view of $Q_1, ... Q_n$.
5. The best explanation of the epistemic successfulness of practice X under our description currently is that (a certain aspect or region of) the world is as described in propositions $P_1, ... P_n$.

I think this structure is similar enough to transcendental arguments found in the critical realist literature to be called a naturalistic replacement for them. Here I am in agreement with Kaidesoja. Our bone of contention is the relevance and usability of this scheme. I am not worried about the first premise, or the *explanandum*, of the argument. While it is indeed rather restricted as an object of ontological inquiry, it can easily be replaced with something more general. The issue is really with the combined effect of the premises 2, 3, and 4. The crucial one is the premise 4. It basically states that all competing philosophical positions are incompatible with the suggested candidate and they cannot adequately make sense of the phenomenon in question. So, this is not an inference to the best explanation, rather this is inference to the only (philosophical) explanation.

Are we ever in a situation where we have only one viable philosophical interpretation of some phenomenon? I would like to suggest that this happens only when we have somehow arbitrarily restricted the number of available positions. This might in fact be the case with many transcendental arguments presented by critical realists. The plurality of viable philosophical interpretations has at least two sources. First, philosophers actually have quite diverse conceptions of what

counts as an adequate philosophical analysis/explanation of some practice (the premise 2). Thus, any attempt to argue for the premise 4 would be essentially contested and controversial. Second – and this is the reason why the premise 3 does not much constrain the set of available positions – in the case of philosophical views there appears to be something analogical to the empirical underdetermination of scientific theories. No matter how detailed an account of a phenomenon one gives, there always appears to be more than one ontological scheme than can accommodate it. Thus it might be that while there are some ontological positions that leave the phenomenon unintelligible, there will always be other positions that can (philosophically) save it. Thus, in fact, one is never in position to run the argument as it is reconstructed by Kaidesoja.

Now this sketchy argument should not taken as a proof of impossibility, but I think it can be used to raise some worries about the relevance of the transcendental line of argumentation in ontology, even when it is reconstructed naturalistically. Transcendental arguments in ontology are an occasional curiosity rather than a basis for a special philosophical methodology. If this is the case, then it might be wiser to drop the whole transcendental line of argumentation than to attempt to reconstruct it (naturalistically or otherwise). I do not know how great the actual disagreement between me and Kaidesoja is on this issue, but his book does leave the impression that naturalistically reconstructed transcendental arguments still have some promise and to my mind this impression is misleading. In ontology, you can always expect that you can show a range of possible positions untenable, but it is wishful thinking to show that some position the only viable one. Thus, arguments of this kind will be very rare.

2 The Ontology of Causal Powers

In chapter 5 Kaidesoja provides a comprehensive discussion of the notion of causal power as it has been used in critical realism. He shows both how Rom Harré created the foundation for the critical realist discussion of causal powers and how these views were modified later both by Harré and critical realists. Kaidesoja's discussion is illuminating and it clearly demonstrates what kind of conceptual problems were created when the notion of a causal power (and associated notions like essence, intrinsic nature, and natural necessity) were transported to psychological and social realms.

However, I did not find his reconstruction of Bhaskar's views in *A Realist Theory of Science* (1975) entirely convincing. Kaidesoja suggests that Bhaskar regards causal powers (and/or mechanisms) as abstract universals. To my mind,

most quotations he provides on page 119 do not actually support this interpretation. Kaidesoja seems to miss the crucial distinction between the activity of a causal power and the display of that power in observable events. The notion of tendency Bhaskar utilizes is quite directly borrowed from J. S. Mill's *A System of Logic* (2002, book III, chapter 10, §5) There Mill considers causes analogical to physical forces and presents the notion of composition of causes. In this view, the causal laws, in Bhaskar's terminology claims about causal powers, are universal although they are not always observable in empirical regularities. This is so because the full realization of the power can be prevented by countervailing causes. The key point is that this view does not imply in any way that causal powers are abstract universals. Of course, this is not to say that Bhaskar's position is without problems. He talks about causal powers and mechanisms quite loosely and does not seem to make any distinction between these terms. Furthermore, and more substantially, it is really an open question how far one can take the analogy between physical forces and causal powers. It seems to me that any serious attempt to use these ideas to reconstruct causal thinking in the social sciences would have very limited applicability.

My more general concern is with the implications of Kaidesoja's discussion of causal powers. I think he successfully shows that employment of the causal powers ontology to the philosophy of mind and social ontology has been troublesome since the beginning. It seems that none of the alternatives suggested in the critical realist literature is really successful. Still, Kaidesoja is hopeful that the approach can be saved by giving it a proper naturalistic foundation. To me, the first question would be is it really worth the trouble? Does the causal powers perspective really provide some crucial methodological advantages for the social sciences, in other words, does it actually help in making sense of causal attributions, inferences and explanations in the social sciences? I think it is far from obvious that the answer is positive, especially if the causal powers theory is contrasted with some recent theories of causation (see for example, Woodward 2003). Notice that this stance is not based on any kind of skepticism about causal powers. Causal powers – that is dispositional properties – are regarded as fully legitimate entities for most philosophers. Furthermore, capacities and dispositions are important *explananda* in the sciences (Ylikoski 2013). It is just that notion of power does not seem to be that productive in understanding causal reasoning in the social sciences.

3 Bungean Social Ontology

One of Kaidesoja's core suggestions in the book is the idea that Mario Bunge's ontology of social systems provides a good foundation for naturalistically oriented

critical realist ontology. By adopting the Bungean ontology, Kaidesoja can dispense with many problematic features of traditional critical realism: no longer any need for transcendental arguments, essences, natures, or internal relations. Bunge provides a consistent but highly abstract scheme for analyzing everything into composition, environment, structure and mechanisms. I do not have any problems with these notions. However, I wonder what the status of this abstract ontological theory is, and more concretely, how does it interact with substantial social scientific theories. This question is important, because the close interaction between ontology and scientific theory is a key feature of naturalism as Kaidesoja describes it.

One possibility is that social scientists accept Bunge's philosophy as a whole. This would imply that they would also accept Bunge's analysis of power, Bunge's theories of social classes, and social status that are all discussed by Kaidesoja (pp. 154–159). I do not think this would count as a very credible version of naturalism. Rather this kind of *a priori* theorizing has similarities to critical realism at its worst. The other alternative is that social scientists merely accept Bunge's abstract and flexible systems vocabulary and continue their work as usual. In this case, Bunge's own substantial social theory would be a mere demonstration that it is possible to have a consistent social ontology. However, the problem with this approach is that it is an open question how much the mere systems vocabulary would contribute to social scientific theorizing. It might just be too abstract to do real work in theoretical systematization. Similarly, it is not clear that it would be very useful in dissolving real ontological problems in social ontology. Thus, I am inclined to withhold my judgment on Bunge's social ontology until some fruitful applications of it are produced.

4 How to Study Emergence

Kaidesoja characterizes his position as a science-oriented version of the emergent materialist ontology (p. 14). He contrasts this position to eliminative materialism that does not seem to provide promising bases for a philosophy of social sciences. I think he greatly clarifies critical realist discussions about emergence. He argues that there are at least three notions of emergence found in the critical realists literature, and two of these – transcendentally realist and global-level concepts of emergent powers – should be discarded as inherently problematic. This leaves only the compositional concept of emergent power, for which Kaidesoja suggests a Bungean analysis according to which a property is emergent if the constituents of the object having it do not possess it. In other words, emergent properties are ontologically novel properties.

To this both safe and weak notion of compositional emergence, Kaidesoja combines Wimsatt's (2007) idea of failure of aggregativity. This is a smart move.

While Bunge's notion of emergence can be criticized for trivializing the idea of emergence – according to it most mundane properties are emergent – Wimsatt's perspective turns this into a positive research strategy. The requirements for aggregativity are quite strict, but it makes sense to ask how the aggregativity fails. According to Wimsatt, aggregativity has four dimensions: (i) intersubstition of parts, (ii) size scaling under addition and substraction of parts, (iii) decomposition and reaggregation of the parts, and (iv) linearity of interactions between parts. As Kaidesoja notes, this scheme makes it possible to study empirically the failures of aggregativity also in a social system, thus turning a philosophical problems to a scientifically tractable problem. I really like the spirit of this idea, and look forward for detailed applications of Wimsatt's scheme to problems in social ontology. However, it might be that there are some problems with the scheme (Kuorikoski and Ylikoski 2013, pp. 73–74). First, the conditions seem to conflate properties of representations and properties of the represented system. Second, the failures are more akin to symptoms of the role of organization in composition rather than an analysis of it. The conditions do list different types of cases in which we cannot simply aggregate the whole from its parts, but they do not explicate why this is impossible. What we need is a more general and analytically fruitful way of conceiving organization as an explanatory variable. An alternative is to focus on dimensions of organizational dependence (Kuorikoski and Ylikoski 2013, pp. 74–75). While this suggestion is still in the same sprit as Wimsatt's, it might have an advantage of providing more consistent and systematic approach for understanding failures of aggregation.

5 Conclusion

Naturalizing Critical Realist Social Ontology is an important contribution both to the debates about critical realism and to the philosophy of the social sciences in general. As my comments show, I am mostly in agreement with Kaidesoja. However, I have raised some issues related to the overall implications of his arguments. It seems that stronger conclusions about transcendental arguments, causal powers and critical realist social ontology are warranted than are presented in his book.

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