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Commentary on James E. Gough and Mano Daniel's "The Fallacy of Composition"

JUHO RITOLA

*Department of Philosophy
University of Turku
20014 Turku
Finland
juho.ritola@utu.fi*

1. INTRODUCTION

In their paper, James Gough and Mano Daniel take up the difficult challenge with which the fallacy of composition presents us: when can one reason from the premise that the parts of some entity have a certain property to the conclusion that the entity as a whole has that same property. This problem is interesting on many levels: as a question of metaphysics, a question of epistemology, and a question of reasoning and argumentation on the hoof. The paper discusses the problem with the help of several examples that are taken both from the textbooks on critical thinking and from "real life" and examines different proposals on how to individuate cogent moves from parts to wholes. The authors note that they do not aim for formal material conditions of the fallacy but instead try to illuminate common strategies and procedures relevant to the fallacy. This should facilitate the discussion of the various possibilities for this fallacy. This aim is understandable, given the deepness of the problem. I also appreciate the fact that professors Gough and Daniel have ventured into this. I think they discuss the matter in a clear and reasonable way and, if my take on them is acceptable, approach the problem quite reasonably as a justificatory problem: just when can one become justified in believing something about the whole based on our beliefs about the parts. In this commentary, I will try to continue the discussion of Gough and Daniel by raising some questions about the correct form that the analysis of the fallacy should take and note a further problem in the proposals for criteria of the fallacy that Gough and Daniel examine.

The basic form, or idea, of the argument from composition is, as noted, to reason from the parts of an entity to the entity as a whole. Gough and Daniel see that all such arguments have a missing premise that they present as:

(MP) What is true of the parts is also true of the whole.

Let us further assume that anyone using an argument from composition uses an argument that has the basic form that is something like this:

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(AC)

1. Every x that has the property of being a part of some specified entity/totality y has the property P.
2. What is true of these parts x, is also true of the whole y.
3. Therefore, the entity/totality y has the property P.

Although the arguments from composition take many forms, I take (AC) to bring out the general idea on which these arguments rely. Premise 2, or (MP) is of course the gist of the matter. Depending on one's preferred framework of analysis, one might call it a warrant, an inferential link, a connecting premise, a missing premise, or an argument scheme. Saying this much is easy, but then things get difficult in a hurry. So, to repeat: we, as matter of fact, reason from parts to wholes (and vice versa). Some properties, such as the material of an object, compose, but other properties do not. In the case that we manage to hit on a property that composes, our inference is supposedly a justifying one. The problem is that we have no mechanical procedure for deciding when we are dealing with a property that does so. Hence, we have to think about our own thinking.

2. CRITERIA FOR THE FALLACY OF COMPOSITION

Scholars interested in reconstructing arguments are painfully aware of the difficulties of reconstruction and I believe there is a problem here that needs to be addressed. According to the survey of Gough and Daniel, writers formulate the missing premise as "what is true of the parts of the whole is also true of the whole." The premise is in what is called the generic form, which is some kind of an indeterminate quantification that is often used in natural language (e.g. tigers are four-legged). Note that it does not state: "Everything that is true of the parts is true of the whole." Clearly, that would be too strong formulation. But then one is tempted to ask if the generic premise is also too strong. From the point of view of justification, surely the arguer need not assume that in general, or often, or in most cases, or typically, what applies to the parts, applies to the whole, in order to be justified in believing the conclusion. The arguer is drawing our attention to some particular attribute and is making a claim about that, not about all or most (or something to that effect) properties of the relevant entities. So, we should not try to quantify over all, or almost all, properties. If an intelligent metaphysician in the course of a debate argues that "If all the parts of this object are extended, this object is extended," no sensible critic would charge the metaphysician for becoming committed in the generic premise. So, I suggest that we control our desire for general premises in the interest of charity. Consider the example of a good compositional argument cited by Gough and Daniel (p. 4):

All the parts of this desk are made of metal; therefore, this desk is made of metal.

Why would the arguer be using missing premise "what is true of the parts of the whole (in general or usually or something to that effect) is also true of the whole"? Assume that the arguer is a metaphysician who also accepts that there emergent properties. It would be clearly uncharitable to hold him or her accountable for such missing premise for it would land him or her in a logical inconsistency. So I propose we reformulate (AC) as:

(AC')

1. Every x that has the property of being a part of some specified entity/totality y has the property P.
2. What is true of all parts x with respect to property P is true of y with respect to y.
3. Therefore, y has the property P.

Consider then:

(AC1)

1. Every x that has the property of being a part of this desk has the property of being metal.
2. What is true of all parts of this chair with respect to their being metal is true of the desk.
3. Therefore, this desk is metal

Given that this analysis is feasible, the reconstruction of arguments from composition as having the structure (AC') is given some credibility.

Another aspect of charity, or reconstruction, is the logical strength of the argument. In (AC') and (AC1), the missing premise is in universal form with respect to this property so it is conceptualized as a deductive argument. But think of the classic example, also mentioned by Gough and Daniel "All members of Toronto Maple Leafs hockey team are good hockey players, so the team is a good hockey team." If we analyze this argument according to the model above, the argument has an obviously false premise. But perhaps the choice to opt for the deductive reconstruction should be justified further. I myself sometimes look at the player rosters before the start of the season. I use the roster as a weak justifier for expectations about the team's performance in the upcoming season, and so do a host of professional sports pundits. This is based on the experience that teams with above average players, whatever that is taken to mean, often finish above average. So, to me the reasoning from players to the team is a predicting cue, a symptom, of the season to follow but I make that inference with clear awareness of its fallibility having learned it the hard way. Yet, I see some justification in it. Hence, the formulation of the missing premise should include some qualifier that would indicate its defeasible nature.

Consider now another argument cited by Gough and Daniel (*ibid.*) and commented by Trudy (2005, p. 318):

(AC2) All the parts of the cookie are brown. So, the cookie is brown.

Gouverneur (*ibid.*) has argued that the above argument

is open to criticism because its form ignores the structural difference between parts and wholes. There is an element of luck [...] This case just happens to be one in which the whole does not have relevantly different structures and relationships from its parts.

But my intuition about the reasoning is different. When I think of color, it very much seems to be a property that composes. I also think that an essential property of a justified belief in a premise is that I can consider the premise in its own right and assess its justificational status. In this case, the justification might be my understanding of the concept of color. If my reasoning is something like the argument (AC'), I seem justified in my belief in the relevant second premise: "What is true of all parts of this cookie with respect to their being brown is true of the cookie." So, I do not accept that I am merely lucky. If we accept that it is wrong to automatically attribute a generic premise to the arguer, I have explained my intuition that it needs not be a question of luck. I was not arguing about all the properties the parts of the cookie and the whole cookie has: I only made a claim about the color of the whole.

However, I wish to emphasize that this in no way refutes the various authors cited by Gough and Daniel who note that in arguments from composition various qualities of wholes come into play and make the inference suspect in many cases. The example (AC2) was given by Gough and Daniel in order to reflect on a proposal by Frans van Eemeren and Rob Grootendorst, who in turn have suggested that we should check whether the property is what they call "absolute" or "relative." Gold is an example of an absolute property. Gold is gold regardless of the possible world (or place within one world), whereas relative properties such as being wealthy do not transfer reliably to other possible worlds (or other frames of reference). But I think this proposal runs into problems even if one does not buy my suggestion that we should specify the missing premise. Take for example the property "soft." I think this qualifies as a relative property, which very much depends on one's frame of reference, and certainly does not hold across possible worlds. But if all the parts of a mattress are soft, it is fairly reasonable to expect the mattress to be soft. The arguer does not ignore relevant structural differences between parts and wholes if there is nothing, or very little, to ignore. So, if this is acceptable, even relative properties can sometimes compose within a single frame of reference. One can also doubt whether absolute properties always compose. The property of "being square" is an absolute property. But it seems to me fairly obvious that an object composed of square parts is not necessarily square. So even if we could define absolute and relative in a non-question-begging in respect to composition, it would still not do the job.

There is one final comment that I wish to make. Gough and Daniel (p. 6) argue that in some cases arguments that commit the fallacy of composition should not, on pragmatic grounds, be disdainfully dismissed. They (p. 8) hold that committing this fallacy refines our understanding of the inherent problems in inferring from micro considerations to macro systems in economic, environmental, or political contexts. I think this is an important observation: arguing from parts to wholes is something that we often need to do when we are struggling to understand the whole. Arguments about composition are a part of our epistemic toolbox, as it were, and should not be rejected categorically. But I also suggest that this is another reason why we should not treat the missing premise in the generic or deductive-making form. If we narrow the premise down to the relevant properties and treat the argument as defeasible, the examination of the justification that premise has, I conjecture, better chances of making epistemic headway. For example, in reasoning from micro-level to macro-level in economics, the examination of premise "what is good for the economy of one individual is good for the whole

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economy” seems to lead more easily to epistemic rewards than the examination of “what is true of the parts is also true of the whole.”

3. CONCLUSION

I believe Gough and Daniel have addressed an important problem in their paper: arguing about parts and wholes is something that we need to do as epistemic agents trying to understand the complex systems around us. But this inference, as they show, is treacherous, and it is very important that we understand it better. The proposed analyses go some way of providing insights into the relevant factors but, quite understandably, there is still a lot to do.

[Link to paper](#)

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