

Aaron J. Cotnoir and Donald L. M. Baxter (eds.). *Composition as Identity*. Oxford University Press 2014. 256 pp. \$65.00 USD (Hardcover ISBN 9780199669615).

In *Composition as Identity*, A. J. Cotnoir and Donald Baxter bring together 13 new essays on the puzzling, but intriguing doctrine of Composition as Identity (CAI). According to CAI, a whole is nothing over and above its parts; the whole *just is* the parts. How we spell out this gloss gives us different pictures. We might take it to mean that the whole is numerically identical with the parts. This is a radical, but strangely compelling view that promises to do theoretical work, though it faces serious challenges. For example, how can a whole be identical with its parts, when some things are true of the parts but not of the whole? After all, the parts are many, but the whole is not, to use an example of David Lewis's from *Parts of Classes* (Blackwell, 87). Some may reject this strong view, while attempting to retain the theoretical work that it promises to play. Others may instead opt for a weaker view where the relationship between a whole and its parts is merely analogous to identity.

Composition as Identity is arranged around five sections. The first section comprises philosophical and historical background. Cotnoir's excellent introduction usefully distinguishes different varieties of CAI, as well as the relevant motivations and challenges. Discussions pertaining to CAI quickly involve technical issues, so Cotnoir sketches a formal theory of mereology and of plural logic. This chapter nicely sets the backdrop for the rest of the papers. The second chapter, by Calvin Normore and Deborah Brown, focuses on historical answers that relate to CAI. There is much of historical interest in this piece. However, the paper is very wide-ranging, spanning a millennium of the history of philosophy, ranging the work of Boethius to the work of Hobbes. The wide span of time, accompanied by the needed teasing out of the various technical notions of the different thinkers discussed, made it somewhat difficult to get a grip on the individual positions and their bearing on CAI.

The papers in the next section consider the relationship between ontological commitment and CAI. A consideration in favor of CAI is that there is something intuitive to the thought that a whole is nothing over and above its parts. It is natural to think that a whole is no further ontological commitment beyond the parts. Achille Varzi 'Counting and Countenancing' attempts to address the tension between this innocence of composition and a Quinean view of commitment where we are committed to whatever our quantifiers range over. If we quantify over both a whole and its parts, then we are committed to both. If we listed our commitments and failed to mention both the whole and the parts, then we have missed something. Varzi dissolves this tension by arguing that mereology is innocent in the sense in which whatever truths about the world a believer in wholes accepts, those truths can also be accepted by one who only believes in the parts and not the wholes (62-7). The innocence of composition consists in the fact that a commitment to fusions doesn't carry a commitment to any truths beyond those that a commitment to the parts of the fusions requires.

Katherine Hawley also considers the innocence of mereology, distinguishing two ways to make sense of it. First is 'leveling up,' where we take nihilist and moderate views of composition to be as ontologically costly as unrestricted composition. However, Hawley argues that this strategy has limited dialectical appeal (79-80). It only shows us that a whole is ontologically innocent given that we already believe in it. Second is 'leveling down,' where we take unrestricted composition to be no more costly than nihilist or moderate views. According to this strategy, we accept that fusions are extra entities but deny that they count against the parsimony of the theory. Hawley defends this claim on the grounds that an ontological commitment only counts against parsimony when it incurs

further explanatory burdens, and that the further fusions posited by unrestricted composition do not create further explanatory burdens.

Ross Cameron's 'Parts Generate the Whole, But They Are Not Identical to It' discusses various puzzles that CAI promises to solve, including the puzzle of why a whole is not a further commitment beyond its parts. Cameron argues that a view according to which a whole exists in virtue of its parts better explains these puzzles than does CAI. Further, unlike CAI, his view avoids the problematic commitment to mereological essentialism, according to which a whole essentially has its parts.

The third selection of papers focuses on the metaphysical commitments of CAI. Meg Wallace further discusses CAI's commitment to mereological essentialism (ME). ME has *prima facie* bad consequences; it seems to imply that I couldn't lose one of my parts, like a skin cell. Wallace discusses a novel view, involving modal parts that aims to allow one to accept ME while avoiding its bad consequences. We are used to spatial and temporal parts; we can generalize this to the modal case with modal parts, where an ordinary object is a fusion of parts drawn from different possible worlds. On this view, an object can have different parts in the sense of variation across its modal parts; that is, a change in parts corresponds to different modal parts having different properties. However, an object cannot change its parts in the sense of essentially having all of its modal parts. So we can both retain ME as well as our commonsense intuitions.

Kris McDaniel's piece 'Compositional Pluralism and Composition as Identity' discusses whether or not compositional pluralism and CAI can form a coherent package of views. Compositional pluralism is the view that there is more than one basic parthood relation. McDaniel is interested in which versions of this view are compatible with a strong form of CAI, according to which a whole is numerically identical with its parts. He develops various versions of compositional pluralism and argues that some of them can be coherently combined with a strong version of CAI.

It is natural to think CAI implies unrestricted composition, on the grounds that if the whole is identical with the parts, then having the parts is sufficient for having the whole. However, some recent arguments have challenged this thought. Einar Bohn's 'Unrestricted Composition as Identity' argues that CAI implies unrestricted composition, contrary to these arguments. Bohn then applies this result to two recent defenses of nihilism, arguing that in light of CAI, these arguments actually support unrestricted composition rather than nihilism.

The next section of papers is devoted to logical commitments of CAI. First is Beyong-uk Yi's 'Is there a Plural Object?' Yi argues against pluralitism, according to which there is a plurality that is both a single object and many objects. Pluralitism is closely related to CAI. Yi points out that one might naturally argue for pluralitism from CAI. Yi's case against pluralitism is based on its conflict with basic principles of plural logic. While CAI is consistent with plural logic, Yi argues that it entails, implausibly, that everything is identical with everything (monism). On the other hand, Paul Hovda's 'Logical Considerations on Composition as Identity' argues that one can put CAI in a more attractive formal setting. He notes that while in some plural logics CAI entails monism, there are ways of modifying the logic to avoid this consequence.

Theodore Sider considers the "Consequences of Collapse," an implication of CAI which says that something is one of a plurality just in case it is part of the fusion of that plurality. This principle entails that plural definite descriptions do not function normally. For example, something is one of

the cells that compose me just in case it is a part of me. However, an electron is part of me and is not a cell. So, there simply is no plurality of the cells that compose me. A further consequence is that this principle allows parthood, identity, and plural quantifiers to be reductively analyzed, though in arguably unattractive ways.

The final two papers focus on Baxter's particular brand of CAI. Baxter's version of CAI has not been much discussed, as compared with the version David Lewis discusses in *Parts of Classes*. According to Jason Turner, one reason for this is the radical nature of the view (225-6). It uses old concepts in unfamiliar ways, as well as entirely new ones. Turner's contribution aims to fix this issue by offering a formal regimentation of Baxter's theory. In the final chapter, Baxter discusses his own novel version of CAI. He situates his own view in the context of some recent discussions of CAI. Further, he discusses and defends the fact that his view involves a failure of the indiscernibility of identicals (247-53). That is, something and something, or something and somethings, can be numerically identical and yet it is not the case that all the same things are true of them.

The papers in the collection provide a valuable contribution to the literature on CAI. The editors have succeeded in covering the central issues related to CAI, and taken together they are an example of a fruitful exchange between formal and philosophical theories. This collection will be of interest to those working on CAI, mereology more broadly, as well as philosophical uses of plural logic.

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