

Cut the Pie Any Way You Like? Cotnoir on General Identity

Katherine Hawley June 2012

1. Introduction

Aaron Cotnoir does all sorts of interesting things in his contribution to this volume. He makes a helpful distinction between syntactic and semantic objections to the thesis that composition is identity, and outlines some empirical points relevant to the syntactic issue. But the centrepiece is his development of a formal framework for addressing the semantic objections.

Cotnoir articulates a general notion of ‘identity’ which can hold one-one, one-many, or many-many (where the identical manys don’t have to be equinumerous). The necessary and sufficient condition in each case for general identity is that the same portion of reality appear on each side of the identity sign; it doesn’t matter whether that single portion of reality is counted in different ways on each side, perhaps as a copse on one side and several trees on the other, or as three string quartets on one side and two ice-hockey teams on the other. Any such attempt to generalise identity must show how the more general relation is still an *identity* relation, and in particular how it conforms to Leibniz’s Law that identicals must be indiscernible. So Cotnoir offers us two alternative ways of preserving Leibniz’s Law, either by introducing an index, or by using subvaluational techniques

There is a lot to like and a lot to think about here. If Cotnoir’s generalisation of both identity and Leibniz’s Law succeeds, this may have consequences for other philosophical puzzles which turn on worries about discernibility. Perhaps we now have space for a novel account of the relationship between (e.g.) the statue and the lump of clay, at least where these permanently coincide. They are surely the same portion of reality in the relevant sense, albeit ‘counted as’ a statue and ‘counted as’ a lump, respectively, and so perhaps they are generally identical despite their apparent differences. And might we now have a new solution to the problem of temporary intrinsics? The unripe green banana and the ripe yellow banana are the same portion of reality (counted at different times?) so they may be generally identical without being identical in the narrowest one-one way.

Now, these and other applications require a distinction amongst one-one identities which Cotnoir does not make in this paper: that is, a distinction between those one-one identities which are governed by Leibniz's Law in the strictest sense ('numerical identities', in Cotnoir's terms), and those which are governed by Leibniz's Law only in its indexed or subvaluational version. Moreover, considering such extensions of Cotnoir's framework forces us to think harder about what it is for some objects to be the same portion of reality as each other: perhaps the unripe banana is the same portion of reality as the later ripe banana, but can we say the same of objects (like living organisms) which undergo very significant turnover of material parts even while continuing to exist?

In this brief note I will focus on the notion of 'same portion of reality': what metaphysical assumptions must we accept if we are to acknowledge Cotnoir's general identity as a genuine identity relation? We need to understand the metaphysics behind the semantics so that we can judge the significance of the claim that composition is general identity; moreover we need to understand the metaphysics so that we can understand how, and whether, Cotnoir's framework can extend to address other philosophical problems.

2. Why Antipodean Counterparts are not even Slightly Identical

As Cotnoir indicates, the notion of being the same portion of reality is crucial to his picture:

In order to take many-one identity seriously, we need to suppose that we can refer to a portion of the world singularly or plurally, and that our way of referring to this portion of the world does not change the fact that it is the same portion either way. (p.9)

Given a single portion of reality, different partitions capture different ways of dividing the portion into mutually-disjoint individuals: your very own portion of reality can be partitioned as you, or as your right half with your left half, or as your top half with your bottom half, or as your cells, and so on. Each such single object (you), or plurality (the cells), results from partitioning the same portion of reality – *is* the same portion of reality – and this is why the relation \approx , the 'general notion of identity', holds between them. You \approx your cells.

The ‘same portion of reality’ constraint is also crucial to Cotnoir’s ingenious retooling of Leibniz’s Law. How can you be identical to your cells, when they are unthinking microscopic cells and you are a conscious, all-too-macroscopic human being?

Cotnoir suggests two different answers to this question, drawing on independent considerations about the logic of plurals. The indexical option is to say that your cells are a conscious, macroscopic human being, relative to the single-human way of partitioning their portion of reality, and that you are unthinking microscopic cells, relative to the many-cells way of partitioning your portion of reality. (Your portion of reality just is their portion of reality, of course.) Moreover Leibniz’s Law holds so long as we are careful to index to the same way of partitioning on each side of the general identity relation. The alternative subvaluational option is to say that it’s true that your cells are a conscious, macroscopic human being because there is some way of partitioning their portion of reality such that the resulting object(s) satisfies ‘is a conscious, macroscopic human being’. In the same way, it’s true to say that you are unthinking microscopic cells. (I am neglecting the difference between partitions and covers, along with some other subtleties.)

Without the ‘same portion of reality’ constraint, these strategies can be generalised to absurdity. Consider the antipodean counterpart of a given object: that is, the object, if any, which is located on the exact opposite side of the Earth from that given object. It might seem that I and my antipodean counterpart are discernible: I am in Scotland, he is in New Zealand; I am female, he is male; I eat porridge for breakfast, he prefers kiwi fruit.¹ But we could cook up a semantics according to which it’s true to say that I am male (relative to my antipodean counterpart), or else true to say that I am male so long as either I or my antipodean counterpart is male. If we become intensely relaxed about discernibility, we can regard my antipodean counterpart and me as ‘indiscernible’, because there are ways of ‘attributing’ our properties to one another.

Now, no-one would mistake this for real indiscernibility, and the transworld antipodean-counterpart relation is no species of identity. This is because it does not

¹ In fact, if I have an antipodean counterpart right now, she/he/it is floating in the Pacific. But if I were in Gibraltar I might have an antipodean counterpart on Te Arai beach near Auckland. Thus the sun never sets on the Commonwealth (according to *Wikipedia* at least).

satisfy the ‘same portion of reality’ constraint. There is no relevant sense in which I and my antipodean counterpart are the same portion of reality, even though the antipodean-counterpart relation is somewhat natural. So there is no sense in which we really partake in one another’s properties, no matter what semantics are cooked up.

As Cotnoir makes clear, the plausibility of his claim that general identity is an identity relation rests upon the fact that general identity is governed by the ‘same portion of reality’ constraint. In this he follows Lewis’s lead in *Parts of Classes*: ‘Take them together or take them separately, [they] are the same portion of reality either way’ (1991, 81), and ‘the many and the one are the same portion of reality’ (1991, 87). To appreciate the force of the claim that composition is a kind of identity, we must therefore understand what it is for objects to be the same portion of reality as one another.

3. Portions of Reality Distinguished From Objects?

Our task is to understand what it is for objects to be the same portion of reality as one another, in a way which shows why this is a genuine identity relation, unlike the relation of antipodean counterparthood. Here is one picture: there are entities called ‘portions of reality’, each individual object or plurality of objects is associated with one such entity, and facts about these associations ground facts about which objects are the same portion of reality as one another. We might link this with a ‘stuff ontology’ according to which portions (or quantities) of stuff (or matter) are more fundamental than the individual objects (or pluralities of such objects) they constitute.

This two-level ontology promises to vindicate the claim that *being-the-same-portion-of-reality* is indeed an identity relation. The fundamental entities are the portions of reality, so the fundamental identity facts are facts about the identities of portions of reality. The dependency relationship between an object and its portion of reality is sufficiently intimate for the object to inherit its identity relations from those of its portion of reality. So far, so good.

In places, Cotnoir beckons us towards the idea that portions of reality are fundamental, and that individual objects (single or plural) are mere aspects of our conceptual scheme, or in some other way non-fundamental.

The intuitive pull behind composition as identity is the thought that we may ‘carve up’ reality however we like. But no matter whether we carve a portion of it as one individual or many, it is still the same bit of reality. (p.9)

Recall, the intuitive idea behind many-one identity is that identities are *insensitive* to our ways of counting things. In other words, *what there is*, and hence what is generally identical to what, does not depend on our practices of counting. (p.10, Cotnoir’s italics)

[Quoting Lewis] ...the many and the one are the same portion of reality, and the character of that portion is given once and for all whether we take it as many or take it as one....[but] it does matter how you slice it – not to the character of what’s described, of course, but to get the form of the description. (Cotnoir 14, Lewis 1991 87)

...count sensitive predicates like ‘is a copse’ and ‘are five trees’ are true in virtue of the *form* of our description of the world...[count insensitive predicates] are true in virtue of the [actually, there’s no ‘the’ in AC’s text but I assume this is just a typo] *character* of the world. (Cotnoir 20, his italics)

It sounds as if there are portions of reality, which have their characters independently of us. We slice, dice, or carve these portions in different ways, resulting in object(s) which may satisfy formally different descriptions, but only within the constraints imposed by the character of the underlying portion of reality; in particular, the truth of identity claims about these object(s) is governed by underlying facts about portions of reality. The tone suggests that objects like copses and trees are somehow the joint product of portions of reality and our ways of describing or counting. The ‘differences’ between copse and trees generated by our ways of counting are not the kind of deep-seated differences which can prevent copse and trees from being identical to one another.

In his final paragraph, Cotnoir describe his framework as compatible with a more realist attitude to carving portions of reality into object(s):

The composition as identity theorist is free to endorse a single way of counting as the correct one, and in so doing would give an answer to the special composition question. And that answer need not be a universalist answer...But composition as identity theorists are also free to claim that *all* ways of counting are equally good...There are also intermediate views according to which some but not all ways of counting are correct. (24-5, Cotnoir's italics)

And he keeps the options open elsewhere:

It may even be controversial as to whether there is any mind-independent fact of the matter as to whether the referent of a term is *many* or *one*. (5, Cotnoir's italics)

But even if it is the nature of reality, not our conceptual schemes, which determines how we ought to carve portions of reality into objects, the two-level picture can nevertheless help explain why objects which are the same portion of reality as one another are identical.

4. Portions of Reality are Objects

But this two-level picture doesn't really capture what's going on in Cotnoir's paper, for several reasons. First, for Cotnoir a copse simply *is* a portion of reality, the same portion of reality as the trees, so both copse and trees *a fortiori* have the same metaphysical status as the portion of reality. Objects are not merely associated with or constituted by portions of reality, they are portions of reality. This is not a two-level ontology, and portions of reality are not mere portions of stuff or matter.

Second, Cotnoir does not need to quantify over or refer to portions of reality as such in his framework. The key notion is that of some object(s) being the same portion of reality as some object(s), but this does not need to be cashed out in terms of each object(s) standing in some relation to some particular portion of reality. Roughly speaking, for Cotnoir objects are the same portion of reality as one another only if they are ultimately composed by the same atoms. (More precision is needed to ensure that we are dealing only with respectable, i.e. exhaustive but non-redundant, ways of dividing up a portion of reality into object(s). Cotnoir achieves the required precision in set-theoretic terms, but he warns us against reading ontological consequences off

his decision to work with a set-theoretic rather than, for example, a higher-order plurals framework for his semantics.)

Cotnoir's strategy here shows that he is not trying to reduce object identity wholesale to sameness of portion of reality. Rather, the idea is to take ordinary, one-one, numerical identity between objects as well-understood, then to generalise this, relying upon a notion of 'same portion of reality' which is defined in terms of the numerical identity of each atom with itself. Correlating 'are the same portion of reality' with 'are composed of the same atoms' makes the application of the framework to permanent statue-lump coincidence almost irresistible. But any application to the problem of temporary intrinsics (or accidental intrinsics) would require a different story about what it is for objects to be the same portion of reality as one another.

Recall our task: to understand what it is for objects to be the same portion of reality as one another, in a way which shows why this is a genuine identity relation, unlike the relation of antipodean counterparthood. This task is of interest in its own right, but it is also an important first step towards applying Cotnoir's framework to other philosophical puzzles. Can this be done without reifying portions of reality as a metaphysically distinctive category of entity, underlying the more familiar category of individual objects?

Cotnoir has given us some grip on the being-the-same-portion-of-reality relation by correlating it with the being-composed-of-the-same-atoms relation. But anyone prima facie sceptical about composition as identity will still want to know why being-composed-of-the-same-atoms is a genuine (if somewhat loose) identity relation. To answer this question, we must widen our gaze, to consider the role which the identity relation is expected to play in metaphysics and elsewhere, to think about criteria of identity, the necessity of self-identity, the connection between identity and ontological innocence, and so on. Cotnoir has already considered perhaps the most important of these – the connection between identity and Leibniz's Law – but establishing that *being-the-same-portion-of-reality-as* can do the theoretical work expected of an identity relation more generally will help to establish its credentials.

Cotnoir, Aaron (this volume): 'Composition as General Identity', *Oxford Studies in Metaphysics N* edited by Karen Bennett and Dean Zimmerman.

Lewis, David (1991): *Parts of Classes*, Oxford: Blackwell.