THE *DE FACTO* DESIGNATOR DEFENSE OF THE IDENTITY OF INDISCERNIBLES

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In his *Discourse on Metaphysics*, Leibniz puts forward the controversial claim, referred to as the "Identity of Indiscernibles," according to which,

(LL) $(\forall x)(\forall y)(\forall F)([Fx \leftrightarrow Fy] \rightarrow x = y)$

For any two objects *x* and *y* and any property *F*, if *x* possesses *F* iff *y* possesses *F*, then *x* is identical to *y*. Max Black, in "The Identity of Indiscernibles" (1952) presents in dialogue form a putative counterexample to (LL). In this paper, I defend (LL) against Black by showing that when *de re* modal properties are taken into account, then Black's counterexample fails.

A brief overview of the paper will prove useful. In section one, I present Black's argument. In section two, I present an argument according to which if modal properties are genuine properties (*contra* certain extreme empiricists), then taking such properties into account shows that Black's argument fails to undermine (LL). In sections three and four, I defend my argument against possible objections.

1. Black's Two Spheres Counterexample

In its basic form, Black's argument can be put like this:

(1) If it is possible that two objects *x* and *y* are alike in all their properties, but $x \neq y$, then (LL) is false.

(2) It is possible that two objects x and y are alike in all their properties, but $x \neq y$.

(3) Therefore, (LL) is false.

Statement (1) is just a statement of the conditions a counterexample to (LL) must meet, and as stated it is trivially true. The success of Black's case therefore rests upon his showing that (2) is true. Black attempts to show the truth of (2) by describing a case in which two objects are alike in all their properties, but are nonetheless not identical.

Black's case is put forward in the context of a dialogue between a philosopher, *A*, who attempts to defend (LL), and another, *B* (perhaps for 'Black'), who tries to undermine this principle. The case itself, as *B* describes it, consists in a possible world in which there exist exactly two spheres, each of which is exactly similar to the other: both are made of pure iron, are one mile in diameter, and possess the same temperature, mass, charge, and so forth.[1] What is more, the two spheres stand some distance apart from each other–let us say, the center of one sphere is three miles from the center of the other. *B*'s claim is that if such a possible world exists, then such a world proves it is possible that,

(4) $(\exists x)(\exists y)(\forall F)([Fx \leftrightarrow Fy] \;\&\; x \neq y)$

[1]If concerned about exact similarity regarding the particles comprising the spheres, the counterexample can be described in terms of a possible world consisting in exactly two electrons. For, electrons seem to have no constituents and various "macro-level" properties (*e.g.,* possessing some temperature) would not be realized at all.

There exist two objects *x* and *y* such that for any property *F*, *x* is *F* iff *y* is *F*, and *x* is not identical to *y*. If (4) is logically possible, then (LL) is false, and surely (4) is possible; therefore, (LL) is false. Or so says Black vicariously through *B*.

2. The Modal Move

Suppose that after *B* presents his putative Two Spheres counterexample to *A*, a nearby philosopher, *K*, turns on his barstool and asks, "Say that again?" *B* points to his napkin upon which he has written (4) and exclaims, "Clearly, (4) is possible; therefore, the Identity of Indiscernibles is false!" After taking a swig of his beer, *K* scratches his head and notes that *B*'s Two Spheres example rests upon the assumption that he (*B*) can appeal to non-actualized possible worlds. *K* then points out that if *B* can appeal to such worlds, then *A* can too. *K* chuckles to himself and says, "And here, *B*, is where you get into trouble."

K: Notice, *B*, that to undermine your Two Spheres story as a counterexample, *A* need not prove the general claim of the Identity of Indiscernibles. Rather, he need only undermine your Two Spheres case itself. If *A* can show that your Two Spheres example does not entail (4), then the your example fails to counter.

B: Fair enough, but why think my Two Spheres case doesn't entail (4)?

K: Basically, for this reason: When describing your two spheres, there are some properties that you forgot to mention.

B: Those properties were what my phrase 'and so forth' was suppose to cover.

K: Not these properties; otherwise you would have seen that your Two Spheres example fails as a counterexample.

B: And I suppose this is where your possible worlds concern comes in?

K: Exactly! Notice that if you have two objects that are not identical to each other, then there exists some world in which one of the objects has a property that the other does not. So, for example, there is at least one world in which one of your spheres exists and the other does not.

B: Didn't Kant say that existence is not a property?

K: Don't be a wise guy. Just say that there's a world in which one sphere is red and the other is blue.

B: Fine.

K: Anyway, *A* needs only to use more fine-grained predicates to pick out properties possessed by the distinct spheres.

B: Fine-grained how?

K: They would simply include a world-indexical. For example, 'x is red in W_α' and 'x is blue in W_α'. If the two spheres are not identical, then there must be some world, W_α, in which the former predicate is satisfied by one sphere and the latter satisfied by the other...

B: ...in which case there is some property–one picked out by a world-indexed predicate–which one sphere possesses and the other does not.

K: Exactly so! And since there is such a property, then given that the two spheres are not identical, they cannot possibly be alike in all their properties...

B: ...and if my two spheres are not alike in all their properties, then my example does not entail (4). Something has gone wrong here.

K: If you can figure it out, let me know.

3. Operator Error

The following night finds *K* sitting at the bar reading Wittgenstein, when *B* enters the establishment, bellies up to the bar, and orders a double-shot of bourbon.

B: *K*, I've been thinking about your appeal to modality, and I think you have a problem.

K: How so?

B: Well, as I understand you, you're saying that for any property possessed by each sphere that I pick out, you can pick out that same property using a more fine-grained predicate, specifically, a world-indexed predicate. Then, you could go to another world in which one sphere has the property I picked out but the other Sphere fails to have that property.

K: So far, so good. And I can do all of that without having to name either sphere.

B: So, if I say that both spheres are red, then you will say that both are red in this world, and, moreover, there is a world in which one sphere is red and the other is not.

K: Exactly.

B: You will then claim to have found a property that one sphere has but the other does not, namely, having that property in some world in which the other sphere fails to have it.

K: Right.

B: But here you have a problem: All your predicates will still be satisfied by both spheres. Take the predicate I've written on this napkin,

(5) '*x* is red in some world in which the other sphere is blue'

Both spheres satisfy this predicate; and any such predicate one sphere satisfies, the other sphere satisfies.

K: Not so fast, *B*. You've failed to see that my predicate's main operator, as it were, quantifies over possible worlds, not spheres.

B: What do you mean?

K: I'm arguing this: For any two objects you give me, regardless of their properties and similarities in the world in which you pick them out, if those objects are not identical, then this follows,

(6) $(\exists W_\alpha)(\exists F)(W_\alpha Fx \text{ and } {\sim}W_\alpha Fy)$

That is, there is some world W_α and a property *F* such that in W_α one of your spheres possesses *F* and the other does not.

B: So, your predicate's main operator quantifies over worlds. I see that, but my argument is about spheres and their properties.

K: Although the main operator in (6) is over worlds, my argument is still about spheres and their–if I may add, *respective*–properties.

B: How so?

K: Notice that (6) is an open sentence and thus a predicate. But (6) is also the consequent of a conditional, which falls under the scope of object quantifiers:

(7) $(\forall x)(\forall y)(x \neq y \rightarrow (\exists W_\alpha)(\exists F)(W_\alpha Fx \text{ and } {\sim}W_\alpha F\text{y})$

Surely, you would agree that for any two objects you give me, if they're not identical, then some world exists in which one of the objects possesses *F* and the other does not. Yes?

B: I suppose so.

K: So, from (7) it follows that, if your two spheres are not identical, then there is at least one world in which one sphere has the property you picked out, say, being red, while the other sphere is not red. But we can go to that world where one sphere is red and the other is not, call that world 'W_α'. Once we have done that, then we see that one sphere has a property that the other sphere does not have, namely, the property of being red in W_α. And that, *B*, is sufficient to show that your Two Spheres story fails to describe an instance of (4).

B: ...unless I limit the properties of the spheres to non-counterfactual properties.

K: But that, sir, is an *ad hoc* move of the worst kind.

B: I just saw *Q* walk in; I think I'll ask him about eliminating modal claims. Bartender, give me another shot!

4. Furtive Names or De Facto Designators

As noted above, an example shows (LL) is false only if the example describes a situation in which *(a)* *x* and *y* are alike in all their properties, and yet *(b)* *x* and *y* are distinct. As *K* has shown, however, the Two Spheres example fails to meet condition *(a)*, since there is some property possessed by one sphere but lacked by the other. But, it seems to me, *K* could push the point, noting that according to (7), what holds for the two spheres holds for *any* two objects. If (7) is true, then *K*'s argument against *B*'s Two Spheres could be used against any example involving two non-identical items exactly similar, relative to some but not all worlds, in all their properties. The result would be that the Identity of Indiscernibles holds just in case the Indiscernibility of Identicals holds. Showing that (LL) is derivable from (7) seems straightforward enough, so *K* would leave it for the bartender–naturally, a philosophy graduate student working on his dissertation–to work it out.

Professor *B* might, however, raise another objection, according to which *K* is naming the spheres *indirectly*. Now, as *B* has pointed out in his discussion with *A*, naming a sphere is cheating. For, by giving one sphere a distinct name, the name-giver brings it about that the two spheres are no longer exactly similar with regard to all their properties. That is, suppose God were to step into the universe, pick out a sphere, and dub that sphere '*a*' or mark it with a red 'x'. As soon as He does this, the spheres are no longer exactly similar with regard to all their properties, which changes *B*'s example. So, the trick, as it were, to showing that *B*'s two spheres case is not a counterexample, is to show in some way other than by naming the spheres that they in fact do not have all the same properties. That is, given *only* what *B* has told *A*, we should ask, can *K* show that the two spheres are not identical in all their properties?

I shall now show how *K*'s response does the trick without naming a particular sphere either directly or indirectly. Distinguish between a name and a definite description. According to Kripke (1980), whom *K* knows intimately, an object is named when it is assigned the name through 'baptism', causally interacting with that object–putting a red 'x' on that thing, say. But notice that in *K*'s response to the Two Spheres case, *K* need not causally interact with any object. He is not naming a sphere, but merely pointing out that one could give what might be called a "world-relative" definite description. Such a definite description would be rigid, specifically a *de facto* rigid designator, something like '*x* is the sum of 2 and 3' (Kripke 1980). Giving a world-relative definite description that rigidly designates an object is different from merely naming that object. For, picking out something via a definite description is simply referring to something based on its unique properties. *K* has merely pointed out that one sphere can be rigidly designated via a definite description, and that is sufficient to show that the two spheres are not exactly similar in all their properties.

So, to summarize, if the two spheres were indeed exactly similar in all their properties, then it would not be possible to pick out one of the spheres uniquely by means of a definite description. But *K*'s statement (7) entails that if the two spheres are non-identical, then there is some world in which one of the spheres has a property that the other lacks, *viz.,* having that property in that world. The possession of such a world-indexed property, as it were, allows one of the two spheres to be picked out via a definite description. Since one of the two spheres can indeed be picked out by means of a definite description, the spheres are not exactly similar with regard to all their properties; and, therefore, *B*'s Two Spheres case fails as a counterexample to the Identity of Indiscernibles.[2]

Word Count: 2390

[2]Thanks to Michael McKenna, James Cargile, Russ Dancy, and Josh Gert for their helpful comments.

References

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