Heil's Two-Category Ontology and Causation

1. Introduction

In his recent book, *The Universe As We Find It*, John Heil offers an updated account of his two-category ontology. The two basic categories of existence for Heil are substance and property. One of his major goals is to avoid including relations in his basic ontology.[1] To be clear, this does *not* make Heil an *eliminativist* or *anti-realist* regarding relations. There can still be true claims positing relations, such as those of the form "*x* is taller than *y*" and "*x* causes *y*." However, according to Heil, such relations are "internal" relations, where the relations hold in virtue of substances and their monadic, non-relational properties. That is, his two-category ontology is deployed to provide non-relational truthmakers for relational truths. In this paper, I will question the success of Heil's project with respect to causation. While Heil's account captures some important aspects of causation, I will argue that it faces a serious problem in terms of maintaining its non-relational status. And with an eye towards preserving what is right about Heil's approach, I conclude the paper with a potential solution to the problem identified here—a way that Heil's ontology might, at least to some extent, regain non-relational causings.

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[1] As Heil indicates (with an admittedly opinionated history), this has historically been a well-respected goal among metaphysicians. Sensitive to the perplexities/difficulties of ontologically robust relations, Heil prefers to put his resources into avoiding ontological commitment to relations rather than working out a coherent place for relations in his ontology. See Heil (2012, chap. 7).

2. Heil's Causings

Heil understands causation in terms of "causings." Heil characterizes a causing as a mutual manifestation of reciprocal powers. This view is placed in sharp contrast to what he calls the "received view," according to which causation is an asymmetrical relation between distinct events. Heil does not see causation as involving one event, the cause, asymmetrically bringing about another event, the effect. Rather, he sees causation as a *mutual* manifestation of *reciprocal* powers, so that causation is a *symmetrical* affair that does not unfold in a causal chain but, rather, a causal nexus.[2]

In support of his view, Heil considers everyday cases of causation. One such case is salt's dissolving in water. As Heil points out, there is an *interaction* between certain chemical features of the salt and certain chemical features of the water. This interaction is not easily captured by the received view, for the interaction appears to be *continuous* and *symmetrical*, rather than sequential and asymmetrical. Due to this cooperative nature of the interaction, Heil recommends viewing such cases as causings:

> [S]alt and water possess *reciprocal* powers or dispositions. The salt's dissolving is a *mutual manifestation* of these dispositions. The result is something with new powers, new dispositions capable of further mutual manifestations with further reciprocal disposition partners. (2012, p. 119)

Another example considered by Heil is that of two playing cards propped upright against each other upon a table. Again, claims Heil, such a standard case of causation is not easily captured on the received view. Yet the case is captured nicely as a causing: "The cards' remaining upright is

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[2] Heil's account of causation approximates that of his long-time collaborator, Charles B. Martin (2008).

a continuous mutual manifestation of reciprocal powers possessed by the cards and the table" (2012, p. 119).[3]

In addition to providing a more accurate account of causation, Heil takes causings to help reveal how causal relations might be internal relations. An internal relation is one that is ontologically no more than objects and their monadic, non-relational properties. Using the notion of God for illustrative purposes, in order to have an internal relation hold between x and y, God need not engage in any *extra* acts of creation beyond creating x and y with certain monadic, non-relational properties. Take, for example, Michael Jordan being taller than Mickey Rooney. In order to have this taller-than relation hold, it is sufficient (one might argue) that God create Jordan with his monadic property of being 6′ 6″ and Rooney with his monadic property of being 5′ 2″; God need not perform any extra act of creation in order for it to be true that Jordan is taller than Rooney. If this is correct, then the taller-than relation is an internal relation. So, to claim that a relation is internal is to de-ontologize the relation. This does not, however, make one an *eliminativist* or *anti-realist* with respect to the de-ontologized relation but, rather, it is to provide non-relational truthmakers for such relational judgments.

Again, Heil suggests that causings can provide the non-relational truthmakers for causal claims. He outlines his approach in the following way:

> If a property's identity is bound up with dispositionalities it would confer on its possessors, and if causal relations are the manifesting of powers, then causal relations would appear to be a species of internal relation… This impression is reinforced, if you think of manifestings of powers—causings—as cooperative, symmetrical affairs. (2012, p. 148)

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[3] It is worth noting that Heil takes powers to be multi-track, in that they will manifest themselves differently given different disposition partners. See Heil (2012, p. 121).

The first thing Heil cites is a property's identity being tied to the dispositionalities it would confer on its possessor. Heil takes properties to be "powerful qualities." According to the powerful qualities view, a property's identity is tied to *both* the powers (or dispositionalities—Heil uses "power" and "disposition" interchangeably) it would confer on its possessor *and* the qualitative (or what is often called "categorical") nature it would confer on its possessor. The powerful nature and the qualitative nature of a property are not, however, distinct from one another—they are not like the two distinct sides of a coin. Rather, the "two" natures of a property are *identical*, rendering the distinction between the powers and qualities conferred by a property a distinction in conception only—different ways of considering one and the same thing. This account of properties is then combined with his account of causings so as to yield non-relational truthmakers for causal claims. "Once you start thinking of causal relations this way," says Heil, "the idea that causal relations are internal might begin to shed some of its initial implausibility…the causings are as internally related as interlocking pieces of a puzzle" (2012, p. 148).

To be fair to Heil, he admits that this account is a sketch that could use more filling in. Still, even at this early stage, Heil's proposal is worth considering for multiple reasons. First, there is value to be had in rendering relations internal. In addition to the inherent difficulties Heil (2012, § 7.3) cites for ontologically robust relations, there is the general motive to avoid including in one's basic ontology more entities than is required. Second, Heil is not alone in suggesting that a powers view of properties can assist in rendering causation an internal relation.[4] Indeed, Mumford has suggested that the move is rather straightforward: "Given that a manifestation is a part of the essence and identity of a power, then if the power and its

[4] See, for example, Keith Campbell (1990, pp. 117-133), Stephen Mumford (2004, p. 173; 2009, p. 109), and Stephen Mumford and Rani Lill Anjum (2011, p. 119).

manifestation exists, any such causation would be an internal relation" (Mumford 2009, p.109). Heil's proposal is therefore worth evaluating, especially since he provides an ontologically serious framework—his extensively developed substance-property ontology—in which to do so. Let us turn, then, to critically examining Heil's strategy for de-ontologizing causal relations.

3. A Problem with Heil's Account

Consider again the case of salt's dissolving in water. In order for this causing to occur, the salt and the water must be brought together. Similarly with the case of the two playing cards remaining upright on the table: all three objects need to be properly positioned with respect to one another in order to get the causing Heil discusses. Heil, of course, is sensitive to this point. He labels such bringing together of objects (with reciprocal powers) the "cause." And the product of a causing he calls the "effect." So, for the salt-dissolving case, the mixing of the salt into the water is the *cause*, the salts' dissolving in the water the *causing*, and the salt's being dissolved in the water the *effect*.

Now, I grant that Heil's adoption of the terms "cause" and "effect" need not involve conceding much to the received view, where that view takes causation to have an *asymmetrical* nature. That is, I won't challenge Heil's (2012, p. 120) insistence that the real causal action, ontologically, remains in the *symmetrical, cooperative* causing. Indeed, causes and effects will themselves typically consist of such causings.

I do, however, see a problem arising for Heil's *non-relational* understanding of causings. In order for God to make it the case that salt is dissolving in water, God must do more than simply create salt and water with their monadic (chemical) properties; He must also ensure that the two are in contact with one another. Similarly, the creation of the cards and the table (with

their monadic properties) is not sufficient for the causing Heil discusses, since such an act of creation does not ensure that the objects have the necessary contact with one another.

Heil's non-relational understanding of causings faces, then, the following difficulty. A key element of a causing is the interaction between the objects involved. For this reason, God's creation of objects with reciprocal powers is not sufficient for a causing. The objects must also have those reciprocal powers *mutually* manifested, thereby capturing the interactive element of a causing. And the concern is that it is far from clear how such a mutual manifesting might be a non-relational affair. Indeed, in the everyday examples provided by Heil, *spatial relations* appear to play an essential role in achieving the *mutual* manifestation of reciprocal causal powers.[5]

4. Rendering Spatial Relations Internal

While he does not do so in order to address the concern raised above, Heil does attempt to render spatial relations internal. His strategy involves taking space to be a single substance and everyday objects to be properties of that substance. Heil considers, for example, a Cartesian conception of space, according to which space is a single extended substance. Were our world a Cartesian space, particular objects would not be substances but, rather, "thickenings" of particular regions of space. Truths about moving objects would have non-moving truthmakers, in

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[5] One might be tempted to defend Heil's approach by applying an alternative formulation of internal relations. In addition to characterizing internal relations as "relations founded on nonrelational features of their relata," Heil also states that "if you have the relata *as they are*, you thereby have the relation" (Heil 2012, p. 146). So, even if spatial relations are ontologically robust, one might respond, the causal relation between the salt and the water can nonetheless be internal, for when the salt is *located in* the water it is true that if you have the salt and the water *as they are* (complete with their monadic properties and spatial relations), you thereby have the dissolving. Notice, however, that so applying this alternative formulation comes at a grave cost. Given that the point of founding relations on non-relational features is to exclude ontologically robust relations from one's basic ontology, one must be careful to avoid being too permissive when applying the "as-they-are" characterization of internal relations. If this characterization were allowed to go beyond the monadic properties of the relata and include ontologically robust relations, then it would not be effective in securing only non-relational truthmakers. Hence, despite any initial appeal it might have, this line of defense appears to be a non-starter.

a manner similar to how truths about the movement of the curser on your computer monitor have non-moving truthmakers. With this Cartesian conception of space, argues Heil, spatial relations would be internal, since an object's identity would be tied to its spatial location:

> God would not create objects, then locate them in space as you might locate pieces on a chessboard. In creating the objects, God would thicken regions of space. A particular thickening could not have existed in some other location any more than a particular freckle could have existed elsewhere on your skin. If you have the objects—the thickenings—as they are, you have them located as they are. Spatial relations, on such a view, are internal relations. (2012, p. 147).

To be clear, Heil would not adopt a Cartesian account of space (or any other monistic view of the physical world) simply because it would enable him to avoid relations. Determining whether space is a single extended substance requires being sensitive to the findings of fundamental physics. Still, Heil's two-category ontology provides a way of incorporating the findings of physics into a more complete, deeper story of the world. And this deeper, ontological story might include a Cartesian account of space, should the findings of physics suggest such a view within the framework of Heil's two-category ontology.[6]

Let us examine, then, whether Heil's tentative proposal of a monistic view of space can help alleviate the problem raised in the previous section. Suppose that Heil were to grant spatial relations a basic role in mutual manifestations, since spatial closeness and contact do help make sense of causings as mutual, interactive affairs. And suppose a Cartesian account of space holds, thereby allowing Heil to render spatial relations internal. Initially, such a picture would appear to neatly preserve the non-relational status of causings. With spatial relations rendered internal, the

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[6] See Heil (2012, p. 54), where he makes clear this balance between his ontology and science.

spatial proximity requirement would no longer threaten to infuse causings with an ontologically robust relation. However, as we will see, this adjustment to Heil's ontology would rule out causings both between distinct substances and within a single substance—there would be no causings.

Consider first the problem of losing causings between distinct substances. Suppose there were multiple Cartesian spaces (perhaps a sort of multiverse view). In keeping with the spatial proximity component of a causing, the Cartesian spaces would need to be spatially related to one another in order to causally interact.[7] But because Cartesian spaces are substances, they cannot be modes or thickenings of a larger extended substance. So, the Cartesian spaces could not be spatially related to one another, for that would conflict with Heil's strategy for de-ontologizing spatial relations. Therefore, on the proposed appeal to Cartesian space, the only place left for a causing in Heil's ontology would be within a single Cartesian space.

Heil's ontology, however, appears unable to accommodate causings within a single substance. Were the universe a single substance, claims Heil, there would be *non*-causal truthmakers for causal claims:

> If the universe were a single, unified field, or a single field pervading space–time, or, for that matter, a Spinozistic unified One, truthmakers for causal claims would be non-causal ways the universe is. The field, or the One, would evolve in ways that would be describable in terms of particle interactions, collisions among billiard balls,

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[7] For anyone tempted here to abandon the spatial proximity requirement because we are here concerned with substances that are themselves spaces, notice that you would then be thrown back into the difficulty of making sense of causings as *mutual*, *interactive* affairs.

salt's dissolving in water, and all the rest. But the deep story would be non-causal. (2012, p. 132).[8]

In order to get clear on Heil's reasons for taking the deep story here to be non-causal, it is worth quoting the entire argument:

> If the field or the One played the substance role, it would be worse than misleading to imagine that *it*, the field or the One, caused its states, ways it is. The relation of a substance to its modes is not like the relation of internal states of your body to your breaking out into a rash. Your body is a complex thing made up of many complex things in constant interaction with one another and with the surrounding environment. But the field or the One is a unified simple with no parts to interact, and no other substances with which to interact. The evolution of such a substance over time would amount to an expression of its nature. In the absence of any other substance, this evolution would not be an effect of a cause. Ordinary perceived change, ordinary causal interaction would resemble ripples arising in a pond and moving across its surface, but uncaused by the wind or changes in the pond's constituents or surroundings.
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> Just as it would be a mistake to think of the properties of an electron as being caused by the electron, so it would be a mistake to think of the evolving properties of the unified field or the One as being caused by the field or the One. An electron's properties are ways it is, modes, expressions of its nature. If these properties change, the source of the change is either spontaneous or the result of an interaction with something outside the electron. In the case of the unified field or the One, there is no

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[8] Campbell makes a similar claim: "So there is a sense in which a monistic cosmology has no use for cause and effect; it has variegation and patterning across a single field-like entity spread through space-time" (1990, p. 125).

outside, there is only the spontaneous expression of the nature of the one substance.

(2012, p. 132)

Causings require causal interaction. But Heil's substances are simple and, therefore, a substance's properties cannot be due to any causal interactions among the substance's parts (for it has no substantial parts).[9] Nor would one want to view properties as causally resulting from the nature they express, for that would do violence to the very notion of a property as a mode, or a way a substance is. The spin of an electron does not causally result from its spinful nature, for the later just is the former! In order to get a causal *interaction*, there need to be two distinct entities to interact. But this distinctness is not available within a simple substance, for there are neither distinct substantial parts to interact nor any distinctness between a property of a substance and the nature that that property expresses. The only option, then, for a substance's properties to be the result of a causing is if there is another substance with which it can interact. Hence, within a single Cartesian space, there cannot be any causings but, instead, simply *spontaneous expressions* of its nature.

Thus, on the proposed appeal to a Cartesian conception of space, Heil's ontology would be incapable of accommodating causation either between distinct substances or within a single substance; there would be no causings! And while this point has been made with a focus on a Cartesian conception of space, the point generalizes to any other attempt to de-ontologize spatial relations by understanding the spatially related objects as properties or modes of a substance. In the case of multiple Cartesian spaces, it is the *substantial* nature of the spaces that prevents them from entering into de-ontologized spatial relations, since substances cannot be treated as properties or modes. Therefore, distinct substances (whether they be Cartesian spaces, unified

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[9] See Heil (2012, chaps. 2-3) for his position that substances are simple in that they do not have any substantial proper parts.

fields, elections, etc.) cannot enter into causings, where a causing is taken to involve a spatial proximity component and yet remain an internal relation. Turning to the case of a single Cartesian space, it is again the *substantial* nature of the space that prevents causings. Since a substance is simple with properties that are expressions—not causal results—of its nature, a single substance (whether it be a Cartesian space, a unified field, an electron, etc.) cannot yield causings but, rather, only spontaneous expressions of its nature.

Now there might remain, as Heil indicates in the quotations above, causal claims that truly apply to the changes occurring within a single substance. And those true causal claims would not require adopting relations in one's ontology, which is a major goal of Heil's. However, that goal would not be achieved in terms of *causings* supplying the non-relational truthmakers for causal claims, since the deep story in that case would involve non-causal, spontaneous truthmakers. And the present issue of interest is whether causings can help Heil to provide an ontology—a deep story—that involves non-relational causation.

Clearly, there is much to recommend Heil's causings over the received view of causation. Heil's account does a nice job of appreciating the symmetrical, cooperative nature of causal interactions. The notion of a *mutual* manifestation of reciprocal powers does not, however, appear to get us any closer to seeing how causal relations might be internal. Therefore, while Heil's causings seem to capture some important features of causation, it is far less clear that they help to de-ontologize causal relations. In the next section, though, I attempt to alleviate (at least to some extent) the tension Heil's ontology faces between de-ontologizing spatial relations and preserving causings.

5. Reviving Causings within a Single Substance

Recall that one of the reasons Heil's de-ontologizing of spatial relations leads to a loss of causings is that he rules out causings within a single substance. The difficulty was that causings require some sort of causal interaction, but such interaction seems untenable due to (i) substances being simple, and (ii) properties being expressions, not causal results, of a substance's nature.

In order to overcome this difficulty, notice that, among the distinct properties of a simple substance, there can be properties that fail to express the substance's *entire* nature. On Descartes' conception of space, for instance, the distinct thickenings each express only a limited aspect of space's nature. Take, then, two distinct thickenings of Cartesian space. Suppose one expresses a particular region, *a*, and the other expresses another region, *b*. The region-*a* thickening, in accordance with (ii), cannot be caused by region *a* because it is an expression of that region. However, the region-*a* thickening is not an expression of region *b*. Nor is the region-*b* thickening an expression of region *a*. Therefore, the region-*b* thickening and the region-*a* thickening might enter into a causing without either thickening being caused by the very nature it is expressing. There is room, then, to respect what is important in Heil's claim that properties are expressions of a substance's nature, while still allowing for properties of a single, simple substance to participate in causings.[10]

Even if this sort of move is successful, Heil's view nonetheless faces the problem of being incompatible with *distinct* substances participating in non-relational causings. Still, I hope to have offered a start, and one worth appreciating since science might reveal the universe to be a

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[10] As noted earlier, in footnote 8, Campbell also claims that there is no room for causation within a single substance. Perhaps, then, he similarly failed to appreciate the point made here, namely, that a property need not express the entire nature of the substance to which it belongs. In any event, our discussion here suggests that a monist might have some use for causings after all, and not settle for simply "variegation and patterning" across the single substance.

single substance, such as a unified field. Moreover, if one is serious about avoiding relations, yet still wants a place for causation in one's ontology, then the option on offer is worth exploring.

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