

John Heil: *The Universe As We Find It*

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By David J. Frost

The hard problems of philosophy of mind arise because of unacknowledged background assumptions or hidden ontological “Big Pictures,” says John Heil in his new book *The Universe As We Find It*. For instance, there are some well-known problems for non-reductive physicalism, the popular view that every mental thing is a physical thing but that mental properties are not reducible to physical properties. Heil wants to displace the “Big Picture” behind non-reductive physicalism in favor of an ontology that dissolves long-standing problems and is independently plausible. For example, it’ll take fundamental or “serious” ontology, Heil says, in order to solve the “exclusion problem,” i.e., the problem that unreduced mental properties seem to compete with the physical properties that “realize” them, more about which below.

Heil suggests we start at the beginning. Our world—the universe as we find it—consists of objects with properties. But what are objects? What are properties? And how are they related? Heil’s theory takes the form of a substance/property ontology of what there fundamentally is. Eschewing the existence of universals, Heil adopts tropism without taking on board the bundle theory that usually comes with it. In other words, properties are non-repeatable, particular things (tropes) that are not bundled together to form substances, but rather are always inhering in a substance. To clarify all this, I’ve tried to break down Heil’s theory into five interrelated theses: the Correlative Thesis, the Partial Consideration Thesis, the Trope Thesis, the Simplicity Thesis, and the Complexity Thesis.

After presenting these theses, I'll discuss how they help solve the exclusion problem in philosophy of mind. Finally, I'll briefly consider some plausible criticisms of Heil's view.

The Correlative Thesis

“Substances are property bearers; properties are ways substances are,” (p. 4). So, substances “bear” the ways they are, which are properties. This interdependence suggests that properties and substances are “correlative” as John Locke says; they stand or fall together, (p. 12). All substances are a certain way and properties are those ways. The argument for this is: “A substance cannot be no way at all, and a property cannot fail to be a property of a substance, a way a substance might be,” (p. 16). Importantly, there are not substances *and* properties both. There are propertyed substances, separable only in the mind (more about which below). If there are properties then there are substances and if there are substances then there are properties, (p. 12). In other words “[e]very substance is some way or other, every property is a way some substance is,” (p. 12).

The correlative relation between properties and substances is not the part/whole relation. Properties do not add up to or constitute substances, according to Heil. Furthermore, substances “are not bare, featureless entities to which properties attach themselves as limpets attach themselves to rocks at the seashore... For a substance to possess a property is for it, the substance, to be a particular way. Properties—ways—do not make up a substance, they are not parts of substances,” (p. 15). And substances “are not hidden beneath, or masked by, their properties... A substance is not a faceless entity that combines with properties to form a concrete object,” (p. 285). There is a unique ontological relationship between a property and its substance we might call “bearing” or, going the other way, “being borne.” So, properties and substances go together. They are separable only by an operation of the mind.

The Partial Consideration Thesis

The only way properties and substances come apart is in thought. According to Locke's cognitive procedure of abstraction, or "partial consideration," we may consider, for example, a thing's shape while excluding its color or consider its color while excluding its shape, even though nothing with shape is colorless and nothing with color lacks a shape. Partial consideration also allows us to consider a propertied substance as *a something* that has a property or as a *property of* a something. For instance, we may consider as separate the really inseparable tomato-which-is-red from the redness-of-the-tomato. Heil takes the latter to be a particular, non-universal, non-repeatable redness (but more about tropism below). Significantly, there exists no such thing as a propertyless substratum, a "bare particular." Although we can arrive at the conception of a "bare particular" by abstracting the properties away from a substance, this result has no ontological upshot. As many early modern philosophers would say, there is not a "real distinction" between a property and the substance bearing it. In terms of being, properties and substances come on the scene together as, I prefer to say, "propertied substances," or indeed, as "substantial properties."

The Trope Thesis

Tropism about properties says that a property is a particular arrived at via abstraction from the property inhering in a substance. What is the universalism about properties that tropism denies? Some advocates of universals say that universals are "transcendent" entities that exist outside space and time. A property instantiates or "participates in" the relevant universal. For example, a particular red sphere is held to instantiate the universals *redness* and *sphericity*. This view on universals is normally associated with Plato. In a different view associated with Aristotle and defended by D.M.

Armstrong, universals are located in their instances. The universal *sphericity* is held to be *wholly present* in each of its spatiotemporally distinct instances.

So, according to proponents of universals, for two red objects there is some one thing, a universal property, they both possess. However, according to trope theorists, the two red objects share the same thing in the way a son has his father's nose, Heil says. The redness tropes are similar, perhaps exactly similar, but they are two different things, two numerically distinct, non-repeatable, particular properties. The trope theorist says there aren't universals; it's not one property in two places, it's two properties that are similar.

Trope theory is normally considered as an attempt to do without universals on the one hand and without substances on the other. Because tropes are particulars, universals are denied and because tropes are usually bundled, substances are not seen as basic or simple. For bundle theorists, properties float free of substances. They add up to or constitute substances but they are really distinct from what they add up to. As we have seen, for Heil it is different. Properties do not hang together with substances in the part/whole relationship. Instead, properties and substances are inseparable except by the mind, where we find that substances bear properties and properties are borne by substances. So, denying the bundle theorist's hoped-for sparse ontology, Heil works with an ontology of particular properties always inhering in substances.

In favor of universals is the fact that they do a good job capturing the notion that properties divide into types. A property is of a certain type merely in virtue of being an instantiation of the relevant universal. To make up types, Heil, as a trope theorist, needs to adopt a brute notion of similarity. The electron's property of "spin-up" (as opposed to "spin-down") is similar-without-any-further-explanation-why to other tropes of "spin-up." These relevantly similar particulars group together to form classes, which stand in for kinds. "Every case is a kind; every way something *is* is a

way something else *could* be—by virtue of being an exactly similar way,” (p. 104). But again this notion of similarity is that in the sense of two celebrities wearing the same dress to the Oscars or a son having the same nose as his father. *Because* they are very similar they can be grouped together. There is a Euthyphro question here that supports tropes and not universals, Heil says. After all, we don’t say that red things are red in virtue of being in a class (i.e., being a universal); rather, we say that red things belong to a class *because* they are red.

The Simplicity Thesis

Next—and this conclusion will be controversial and have far-reaching implications—substances are simple; they have no proper substantial parts. Candidate fundamental substances include electrons, bosons, fields, and spacetime itself. Candidate properties are, for example, the spin, charm, etc., of electrons. Ultimate physical science (as opposed to non-fundamental physical sciences like neurophysiology) will tell us what the fundamental substances and their properties are.¹ But no matter how it comes down, according to Heil, it will be a matter of beings being a certain way or substances bearing properties. And these propertied substances will be simple constituents of complexes, i.e., the basic constituents of everything we can come to know there is, such as molecules, billiard balls and tomatoes. (But more about complexes below.)

There are three thoughts that might serve as arguments for the Simplicity Thesis: the independence of substance, the dependence of properties, and the uniqueness of the bearing/being borne relationship. According to a long tradition, properties depend on substances and substances are those things that depend on nothing else. This conception means that substances cannot have

¹ Heil rejects the idea that there may not be a fundamental level. See Schaffer 2003.

other substances as parts because they would be dependent in a sense on their substantial parts. So if they cannot have substantial parts, then they are not complexes; they are simple substances.

Also, without putting it exactly this way, Heil seems to think that the bearing/being borne relationship is unique to propertied substances. Again, a substance bears a property; a property is borne by a substance. And the two-place ontological relation of bearing/being borne that relates a substance and its properties is unique to propertied substances. Complexes, which are complicated just-so arrangements of propertied substances, do not themselves “bear” properties in the same sense of “bear.” An arrangement is not the kind of thing to strictly “bear” properties, only a simple substance does that. Instead, complexes such as tomatoes bear-in-another-sense what Heil calls quasi-properties. And a tomato is a quasi-substance when abstracted from its quasi-properties. Heil insists that these arrangements, no matter how intricate, are “no addition of being” over their constituent propertied substances.

Complexity Thesis

So, tomatoes are just n number of complexes of complexes constituted by simples. “Tomatoes are particular dynamic, interrelated arrangements of corpuscles [propertied substances]. It is true to say that there are tomatoes, that this tomato is red and spherical, but the truthmaker for this claim is not a substance, it is a fleeting, dynamic arrangement of substances, a particular way the substances—the corpuscles—are interactively arranged at a particular time,” (p. 19).

Heil’s account of complexes like tomatoes does not amount to nihilism about tomatoes and other complex entities, he insists. Tomatoes exist, he says. They just amount to, or are identical to, the just-so arrangements that constitute them. Reality for tomatoes does not require a level of being for fundamental entities as well as another level of being for non-fundamental entities such as

tomatoes. For Heil, all there is is the fundamental level of being, which is arranged in certain ways and then described, cut up, and categorized in innumerable ways useful to us. As Heil says, “Philosophers sometimes make a point of describing science as in the business of ‘carving nature at its joints,’ a phrase traceable to Plato. But reality exhibits endless joints. The task of science is not to find ‘the’ joints, but to circumscribe *significant* joints, joints that figure most prominently in our commerce with the universe,” (p. 193-194). But this would be epistemology, not fundamental ontology, on Heil’s view.

Again, realism about complexes like tomatoes only requires that statements about those complex entities be true. And, according to Heil, “this tomato is red” and “this tomato is spherical” are made true by propertied substances in certain just-so arrangements. “Realism about tomatoes requires, not that there be substances—tomatoes—possessing properties essential to, or definitive of tomatoes, but that judgments about tomatoes are, often enough, true,” (p. 208). What makes such judgments true is not a tomato as a tomato but a tomato as fundamental properties in a just-so arrangement describable in the terms of fundamental physics. This means that “[t]he nature of truthmakers for many everyday and scientific claims could be largely beyond our ken,” (p. 287) Heil admits. But we’ll discuss criticisms below.

Dissolving the Mind-Body Problem

Let me turn now to Heil’s application of his theory to an issue in the philosophy of mind. According to non-reductive physicalism, the mental is not reducible to the physical. The problem has been that this idea coupled with some plausible physicalist commitments seems to indicate that either the mind is epiphenomenal or indeed reduces to the body. The most popular expression of this worry is known as the exclusion problem. A mental property that is realized by a physical property or

supervenies on a physical property might seem to be pre-empted by the property realizing it or the property it supervenes on. It will be excluded from having any causal power if the realizing or subvening physical property is sufficient for its effects and we rule out overdetermination.

The exclusion problem generalizes, Heil says—and many philosophers agree—from mental quasi-properties to all upper-level quasi-properties. When a tomato is taken to be a complex arrangement of simples, it can start to seem as if the complex arrangement has causal relations to the world that exclude the tomato itself from being causal. In different terms, the just-so arrangement of clay seems to do all the causal work and the statue can do none.

Heil's theory as described above offers a solution to the exclusion problem in its mental-physical and generalized versions. His first point simply denies the sense of a real distinction between mentality and physicality, and says that there is thus simply no question either of reduction or non-reduction. Heil describes this move as one of Wittgensteinian therapy. A wrong kind of thinking has got us into trouble and a right kind of thinking will dissolve the problems. "The mental and the physical are names, not of families of substances and properties, but of ways we have of conceiving, describing, and explaining the universe," (p. 209). When we think about it with Heil, we see that what we thought was a problem was no problem at all. Of course, that may not be satisfying for philosophers who take the exclusion problem to be genuinely problematic.

Heil's proposed solution to the generalized exclusion problem is to highlight his claim that there are not multiple levels of reality beyond fundamental substances and their fundamental properties. Their arrangement into complex entities such as tomatoes and bits of clay and, for that matter, statues, is "no addition of being."

So, as best as I can tell, Heil's answer is to foreground his claim that a complex *is* not. It does not exist qua complex. Instead, it reflects our ways of dividing up the world. "One salutary feature

of the thesis that substances qua property bearers must be simple is that it inhibits attempts to generate ontological levels,” because “[t]hinking of complex objects, objects that have substances as parts, as themselves having properties encourages the kind of double counting that plagues strains of non-reductive physicalism,” (p. 287). If you avoid double counting, you avoid the exclusion problem.

“If you organize [the] fundamental things in a particular way, the result will be an arrangement of which it is true that this is a tomato, this is red, this is spherical. If you take the very same fundamental things and organize them differently, you will produce an arrangement of which it is true that this is a sentient creature undergoing a particular kind of experience... you do not have the arrangement plus the sentience,” (p. 247).

Thus, we can divide the world up into various physical, chemical and biological things and we can divide (some of the world) into various mental and societal things. But these divisions are not ontologically deep—there is not a neurophysiological level of reality and then a standalone or dependent psychological level of reality; there is just the fundamental level, neither physiological nor psychological. Dividing up the world is just something that we do in the course of pursuing our various epistemological approaches to the world. The mental and the physical and all levels of description above fundamental physics are distinctions of reason, not real distinctions. Thus, there is no question of reduction or non-reduction and, by avoiding double counting, there is no question of exclusion.

Criticism

Denying real distinctions between chemistry-described objects, biology-described objects, and neurophysiology-described objects seems to have some unsettling consequences. Heil makes all

levels of description above fundamental physics non-objective or at least human-relative. “There are propertied substances and perhaps arrangements of these, and there are different ways of marking off the endless divisions among the substances. Is that *it?*” (p. 280). Yes, that’s it, Heil says. And these different ways of dividing up the arrangement of the substantial properties are ways of conceiving; they are products of the mind, not ontologically deep. This view seems committed to a liberal mereology such that a tomato and a lamp are as unified an object as the two halves of a tomato. This is because a tomato is no addition of being over its parts. But it seems to me that if tomatoes exist (as I will say “with being”) then the arrangements of substances into complexes cannot be “no addition of being.” With his Realism, all Heil has is judgments about tomatoes being true; he doesn’t have tomatoes being tomatoes.

In other words, Heil’s discussion of truthmakers seems vulnerable to a kind of “qua problem.” On his account, there are no levels of being besides the fundamental level. But this means that true statements about tomatoes are not true of the tomato *qua tomato*. They are true of the tomato qua complex-arrangement-of-fundamental-propertied-substances. So, only the fundamental level is thematized in Heil’s philosophy. Everything else is merely our description of the fundamental propertied substances’ arrangements. Heil leaves it to others—others doing epistemology and/or not serious ontology—to say something about how domains of description like the special sciences hang together or depend one on another.

Conclusion

Heil’s book is an ambitious and original contribution. I have only focused on a small but substantive part of what he offers. With additional chapters on causation, emergence, relations, reduction, consciousness, and methodology in metaphysics, it will be required reading for any one interested in

the philosophy of mind. In the recently popular trend of thinking of philosophy of mind as applied metaphysics, Heil's *The Universe As We Find It* occupies a place of central importance.

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References

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