Philosophy in Review

Paul M. Pietroski, "Conjoining Meanings: Semantics Without Truth Values."

David Lindeman

Explore this journal

Cite this review

Paul M. Pietroski. *Conjoining Meanings: Semantics Without Truth Values*. Oxford University Press 2018. 416 pp. $67.00 USD (Hardcover ISBN 9780198812722).

Pietroski's *Conjoining Meanings: Semantics Without Truth Values* is a groundbreaking work on natural language expressions, their meanings, and how these are related to human thought—and, Pietroski is emphatic, *not* the world. It provides nothing less than a new paradigm for semantics, untethered from metaphysics and more firmly placed within the cognitive sciences. In Kuhnian terms, it is a call for revolution.

The book, organized into nine chapters. is alternately destructive and constructive—mostly destructive in the beginning, but increasingly constructive. Chapters 0-2 provide exposition of received views in semantics and an introduction to Pietroski's alternative, motivated by a discussion of several outstanding problems for the former. Chapter 3 details the genesis of the dominant paradigm in semantics, highlighting the fact that seminal figures like Frege, Tarski, and Church were not trying to provide theories of human languages, the lesson being that we should not be surprised if the formal tools developed by these figures prove ultimately unfit for natural language. Chapters 4 and 5 deepen the case against prevailing theories. Chapters 6 and 7 further elaborate the alternative, while chapter 8 summarizes the results.

Most working semanticists think the meanings of linguistic expressions are extensions or intensions. Taking the first line, the meanings of terms, predicates, and (indicative) sentences are objects, sets of objects, and truth values. Taking the second, the meanings of terms, predicates, and (indicative) sentences are functions from possible worlds to the same. (Of course, these functions can be taken in extension.) Often, this is combined with the (Lewisian) view that human languages ('Slangs', in Pietroski's lingo) are sets of meaning-pronunciation pairs (54-62). According to Pietroski, 'this abstraction from psychology has outlived its utility' (3).

On Pietroski's view, meanings neither are nor determine extensions. Rather, the meanings of linguistic expressions are 'composable instructions' ('*Begriffsplans*') for accessing and assembling concepts, which are 'mental predicates' of a (Fodorian) language of thought with 'a distinctive representational format' (1, 3, 24-7, 107). Slangs, moreover, are child-acquirable biologically implementable procedures for generating expressions and connecting them with meanings (2, 47, 50, etc.). They are I-languages, in Chomsky's sense (50-2, 156, 182). The view is, as Pietroski puts it, 'deeply mentalistic' (3).

The meaning of 'meaning' is thus an instruction, where this idea is cashed out in terms of the computational theory of mind (106-8, 349). This identification is not a matter of stipulation, Pietroski emphasizes (pace Lewis et al.), but an empirical hypothesis (3). The meanings he is concerned to theorize are precisely those that Slangs connect with pronunciations. Meaning is a natural kind (3, 23-4, 347). And as 'ordinary linguistic competence provides a pretty good indicator of the meanings we're talking about' (49), we can ground talk of them in certain paradigm examples—highlighting, for example, structural homophony, lexical homophony, and polysemy.

Being linguistically competent, we know that 'a spy saw a man with a telescope' has two meanings, captured by the paraphrases 'a spy saw a man by using a telescope' and 'a spy saw a man who had a telescope' (42). We know that these paraphrases each have one meaning—and so, that meanings are something we can count (38). Moreover, we know that 'a spy saw a man and had a telescope' is *not* an admissible paraphrase. Holding lexical meanings fixed, there are only so many meanings a phrase can have (41). By contrast, the number of meanings that may be associated with a pronunciation, **bæŋk** for example, is open-ended (5-6). When we talk about financial institutions

and the sides of rivers, we use different words with different meanings and the same pronunciation. Lexical homophony, in turn, can be contrasted with polysemy. 'Book', for example, as in 'book that he defaced' and 'book that he plagiarized' differ, though not enough to count two words with distinct meanings (5). Polysemy, on Pietroski's view, is not one word associated with at least two closely related meanings but one word with one meaning related to a family of concepts; it is 'conceptual equivocality' (4-6, 8, 17). To stick with the example, 'book' may be used to access BOOK: VEHICLE or BOOK: INFO, the first applicable to spatiotemporally located objects encoding information and the second to information encodable in spatiotemporally located objects (5-7). See also: 'lines,' as in 'Euclidean lines,' 'telephone lines,' 'lines of thought' (5).

Again, meanings are specimens of a natural kind, and these examples are intended to ground talk of them. But this is not to say 'meaning' is a natural kind term, à la Putnam. Not even that putatively paradigm natural kind term 'water' is such. 'Water,' like 'meaning', is polysemous (24). There is a use of 'water' on which soda is not water, though a typical bottle of soda contains a higher percentage of H_2O than most 'bodies of water,' including those located in drinking wells (21-2). We can introduce a regimented use of 'water' associated with a kind-concept, applicable to all and only the samples of H_2O (modulo impurities); but it will still be false that 'water' has the extension {x: x is H_2O} (20, 22-3, 347). Above, it was remarked that from Pietroski's view meanings neither are nor determine extensions. And here we have an even stronger claim: linguistic expressions do not have extensions (9, 16-7, 19-20, etc.).

Eradicating polysemy (and vagueness) would leave us with a language in some sense, as Frege's Begriffsschrift is a language in some sense; but it would be radically unlike natural languages. And even a Begriffsschrift-like language runs into trouble when we identify its meanings with extensions. For one, every necessary truth must have the same meaning; whereas, intuitively, some differ: For example, 'seven and five make twelve' and 'two and two make four.' Likewise, there are necessarily co-extensive expressions with distinct meanings: e.g., 'Hesperus' and 'Phosphorus,' 'woodchuck' and 'groundhog' (10). This indicates that meanings are not extensions. But it's worse than that.

What do we say about sentences like 'this sentence is false'? If the sentence is truth-evaluable, it is true if and only if it is false. But that can't be. Still other puzzles arise under the assumption that sentences have truth values. Consider action reports. 'Simon played his tuba' is implied by 'Simon played the song on his tuba,' and this is plausibly accounted for by the conjunct reduction permitted by Davidsonian event analyses for these sentences: $\exists x[\text{Played}(x, \text{Simon}, \text{HisTuba})]$, $\exists x[\text{Played}(x, \text{Simon}, \text{TheSong}) \& \text{On}(x, \text{HisTuba})]$. But the analysis, Pietroski argues, must be severed from the idea that these sentences are true if and only if some event satisfies the conjunction of predicates. Plausibly, Simon playing the song and his tuba are one and the same event. But then 'Simon played his tuba on his tuba', which receives the representation $\exists x[\text{Played}(x, \text{Simon}, \text{HisTuba}) \& \text{On}(x, \text{HisTuba})]$, should be true; whereas it is nonsense (214). Pietroski's solution to these and related puzzles is to deny that sentences have truth values—indeed, to deny, more generally, that linguistic expressions have extensions, whether entities, sets, or truth values. If that's so, *a fortiori* meanings don't determine extensions expressions have.

The problems discussed here (see chapters 1, 4, 5) are not entirely original to Pietroski, as he himself notes. But he brings them together in instructive and historically informed ways and makes a compelling case that these problems – anomalies, in the Kuhnian sense – call for a new paradigm. His solution offers a clean break. And his alternative offers a way forward.

Whereas, the Fregean meaning typology—consisting of the basic types <e> and <t>, belonging to expressions denoting entities and truth values, with the generation of ever more complex types

governed by the following recursive clause: If ⌜<α>⌝ and ⌜<β>⌝ are types, ⌜<α, β>⌝ is a type – comprises *boundlessly* many types, most of which (including even a number of very simple types: e.g., <t, e>) are unattested in Slangs (26, 128-30), Pietroski's more cognitively realistic typology, designed expressly to account for Slangs, consists of no more than *two* types: <M> and <D>, corresponding to monadic and dyadic concepts. Lexical meanings are type <M> or <D> and phrasal (including sentential) meanings are type <M>. There are then two operations for meaning and concept composition, M-junction and D-junction. The first takes two monadic meanings/concepts and delivers a third, the resulting concept being applicable to an entity e just in case the component concepts apply to e. Thus, for example, LUMINOUS and PLANET are M-joined, according to the instruction M-join[μ('luminous'), μ('planet')], where ⌜μ(Σ)⌝ stands for the meaning of ⌜Σ⌝ (25). The result is the concept LUMINOUS PLANET—or more perspicuously, LUMINOUS(_)^PLANET(_). The second operation takes a monadic concept and a dyadic concept and delivers a monadic concept, applicable to an entity e just in case e bears the dyadic relation to some entity to which the component monadic concept applies. For example, D-joining ON(_,_) and PLANET(_) delivers a concept of things on a planet: ∃[ON(_,_)^PLANET(_)], where '∃' represents a kind of closure without existential import (32, 104). Complete thoughts are monadic concepts, constructed by executing certain phrasal meanings, to which the polarizing operations **UP** and **DOWN** are applied, and are applicable to everything or nothing, depending on whether or not the concept applies to something (30, 314-5). Helpfully, Pietroski demonstrates how this system handles the sorts of constructions a typical first course in semantics presents (chapter 7).

The system is, as Pietroski writes, 'fundamentally geared to predicates' (31), 'governed by a natural logic in which conjunct reduction plays a central role' (360). In this respect, it is more Aristotelian than Fregean (32). Another difference: Pietroski's meanings compose (in contrast to extensions, which are recursively specifiable but not composite (294, 359)), as do the concepts they access and assemble: complex meanings and concepts have meanings and concepts as components; where the structural complexity of the concept constructed mirrors that of the meaning executed in constructing it (359, 24-5). Meanings, on this view, are 'doubly removed' from the world (17, 348).

Normal scientists of the current paradigm will be ready with responses. Whatever the merits, at least one response will no longer fly. There is more than one game in town.

David Lindeman, Georgetown University