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**Semantics, metasemantics, aboutness.** By Ori Simchen. Oxford: Oxford University Press, 2017. Pp. xviii, 159. ISBN 9780198792147. \$60.

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In this book Ori Simchen advocates a PRODUCTIVIST approach, or orientation, to metasemantics, which he contrasts with what he calls the INTERPRETATIONIST approach. The book is divided into six chapters and contains three appendices. The first chapter sets the ground for the book by introducing semantics and metasemantics, the interpretationist and productivist distinction, the major players on both sides of the distinction, and the main problem—indeterminacy—that S will use to adjudicate between the two approaches. It is accompanied by an appendix that compares David Lewis's early and later conceptions of metasemantics. Ch. 2 discusses the problems arising for the interpretationist approach to singular reference by Hilary Putnam's (model-theoretic) indeterminacy argument and is accompanied by two appendices. The first appendix explains the mechanics ('scrambled truth') of Putnam's argument, and the second describes Saul Kripke's extension of the causal-historical productivist theory of reference to mathematical expressions. Ch. 3 is devoted to the role of aboutness in metasemantics. Chs. 4 and 5 introduce two case studies supporting productivism: self-reference and legal interpretation. The concluding chapter returns to indeterminacy, the main issue that stands between productivism and interpretationism.

Metasemantics, as S sees it, is the philosophy of semantics. Semantics assigns semantic values (reference, meaning, truth conditions) to linguistic expressions; metasemantics investigates the principles governing the assignment of semantic values to such expressions. In S's words, '[s]emantics studies the *what* of semantic endowment while metasemantics studies the *how*' (55). Metasemantics investigates how, or in virtue of what, linguistic expressions have the semantic value they have, including the role played by aboutness (our intuitions of what they are about) in determining their semantic values.

S's distinction between productivism and interpretationism centers on who determines the semantic values of linguistic expressions. Interpretationists and productivists approach semantic values from the opposite ends of linguistic discourse. Productivists focus on the 'producers' of linguistic discourse, interpretationists on its 'consumers'. Productivists say that what determines the semantic values of tokens of linguistic discourse—reference and satisfaction of subsentential utterances, truth conditions of sentential utterances—is what its producers intend their words to refer to and what they intend to say about these referents. The producers' intention is a matter of

fact. In the case of reference, for example, the facts are determined by (i) what objects there are in speakers' environments, (ii) what objects they intend their words to refer to, and (iii) the causal-historical chains that connect them to these objects. Reference is prior to truth; world is prior to mind. The truth values of full (token) sentences are determined by whether their truth conditions are satisfied by the world, where their truth conditions are determined by the reference of their subsentential constituents.

Thus, according to the productivist account, if a particular cat in the world belonged to W. V. Quine, if Quine named her 'Tabitha', and if on a certain particular occasion of uttering the word 'Tabitha' Quine intended to refer to this cat, then on this occasion this cat is the referent of Quine's utterance 'Tabitha'. And if on that occasion Quine said 'Tabitha is a cat' and by 'cat' he intended to mean a certain kind of animal with which he had certain causal/historical connections, then these circumstances fix the reference (satisfaction conditions) of 'cat' in that utterance as well. These two facts (concerning reference) determine the truth conditions of Quine's utterance 'Tabitha is a cat', and, finally, these truth conditions, together with the world, determine the truth value of 'Tabitha is a cat' as uttered by Quine on that occasion.

In contrast, interpretationists focus on how language consumers, that is, those who listen to (or read) certain linguistic utterances, understand and interpret them and determine their semantic values. Whereas productivists proceed from the bottom up—from words to sentences and from reference to truth—interpretationists proceed from the top down—from sentences to words, and from truth to reference. According to Donald Davidson, for example, we interpret speakers' utterances in a way that maximizes their rationality given the environmental parameters of the situation in which they make these utterances. And according to Lewis, we determine the reference of speakers' words by asking which reference determinations will best generate 'truth' for those theories of the world that respect 'objective joints in nature' (147). S attributes the interpretationist approach to Quine, Davidson, Lewis, and Putnam of the model-theoretic argument, and descriptivist theorists of meaning. He attributes the productivist approach to the earlier Putnam, Kripke, Keith Donnellan, David Kaplan, Jerry Fodor, Ruth Milikan, and Fred Dretske.

To show that productivist metasemantics is philosophically superior to interpretationist metasemantics, S favorably compares its ability to deal with major philosophical problems concerning semantics (such as the indeterminacy problem), particular cases of semantic value (such as self-reference and numerical reference), and questions of textual interpretation (such as Antonin Scalia and Richard Dworkin's debate on the interpretation of the eighth amendment to the US Constitution) with that of interpretationism. He emphasizes the intuitive plausibility of productivism compared with that of interpretationism, and he shows that, and how, productivism can handle the counterintuitive aspects of important semantic theories (such as truth-conditional semantics with its higher-order functions). S does not develop a detailed metasemantic theory. Instead, he delineates the overall structure of the productivist approach and sketches a few venues open to it.

The most important philosophical problem solved, or indeed altogether avoided, by productivism but not by interpretationism, according to S, is the Quine-Putnam problem of INDETERMINACY. The problem is, or is said to be, that THERE IS NO FACT OF THE MATTER CONCERNING THE REFERENCE/MEANING OF SUBSENTENTIAL EXPRESSIONS. Granted that 'Tabitha is a cat' is true, it is possible to interpret it as saying that the cosmos-minus-Tabitha has the property of being a cosmic complement of a cat, or that Barack Obama is a male, or that the number one is odd, or .... All of these interpretations preserve the truth of 'Tabitha is a cat', but they each assign nonstandard, intuitively unreasonable values to the subsentential constituents of this sentence (utterance). Technically, we can present this result as due to the fact that it is always possible to permute the denotations of singular terms and, based on these, the meanings of predicates, in such a way that these denotations and meanings are unnatural, yet the result preserves the truth value of the original sentence. (If all objects are replaced in a one-for-one manner by other objects, this induces a replacement of properties—referents of predicates—by, for the most part, different properties, without any change in the truth values of the original sentences.) 'Tabitha is a cat' is true under such 'scrambled' meanings just as much as under 'standard' meanings. Its truth value is not af-

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fected by its indeterminate meaning. And the same holds for any other sentence. The meaning (reference) of all human discourse is thus deeply indeterminate.

S construes the interpretationist 'solution' to the problem as setting limiting conditions on acceptable interpretations (reference assignments). Davidson, as noted above, introduces a 'rationality' (29) constraint, according to which admissible semantic values must maximize speakers' rationality in their environment. Lewis introduces the 'naturalness' (34) or 'reference magnetism' (8) constraint, according to which only natural semantic values are admissible, where naturalness is (metaphorically) equated with 'carving nature at its joints' (36). Assigning to 'cat' the class of all cats carves the world at its joints, but assigning to it the class of cosmic complements of cats does not.

S criticizes the interpretationist solution on several grounds. (i) It does not achieve unique reference: both the rationality and naturalness constraints leave plenty of room for indeterminacy. (ii) It is circular: truth and reference are (partial) determinants of each other. (iii) It fails to identify what really determines the semantic values of our words. In contrast, productivism offers a complete solution to the indeterminacy problem: reference (satisfaction) is uniquely determined; the determination of reference is noncircular (since reference is generally determined independently of truth); the determination is natural in the sense of agreeing with our intuitions of what the semantic values of given subsentential utterances are and how they are determined. Putnamians might object that any attempt to determine reference on independent grounds is 'just more theory'—theory about causal connections, speakers' intentions, and so forth—and that the reference of this theory's words ('causal connection', 'intention', etc.) is also indeterminate. In other words, we can scramble the reference of metasemantic theories just as much as other theories. But S sides with Michael Devitt and others who have pointed out that this response confuses the imposition of external (metasemantic) constraints on the semantic determination of reference with the addition of a new part to the original semantic theory.

There is much more in this small book that I will not get into. But concerning the main issue of productivism vs. interpretationism, I think there is room for both productivism and interpretationism in metasemantics. Both speakers' intentions and listeners' interpretation are integral to our understanding of linguistic discourse. In particular, in theoretical contexts (say, contexts involving theoretical physics or mathematics) our understanding of discourse is less sensitive to the circumstances of production than in everyday discourse about concrete objects in our environment. How best to interpret theoretical discourse is a more complex matter than most interpretationists appreciate, but it goes beyond productivism. In light of this evaluation, I see productivism as complementing rather than replacing interpretationism.

At the same time, I agree with S that what is relevant to the determination of meaning (reference) is not just, and even not primarily, the truth value of sentences, even when the determination is subject to conditions like those imposed by Davidson and Lewis. The relation between truth and reference is not symmetric, and metasemantics ought to identify the determinants of reference largely based on independent grounds.

Let me conclude by saying that *Semantics, metasemantics, aboutness* is a rich and stimulating work, offering an original contribution to metasemantics, the philosophy of language, and the philosophy of mind. It is highly recommended for students and professionals in these areas, as well as to linguists, psychologists, and cognitive scientists.

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