

Steve Awodey and Greg Frost-Arnold (Eds.). *Rudolf Carnap: Studies in Semantics*. Oxford University Press year. 608 pp. \$160.00 USD (Hardcover 9780192894878)

Before his 1935 emigration to the United States, Rudolf Carnap had already started to work on semantics. Nonetheless, his most detailed and engaging work on semantical analysis had been done already at the University of Chicago where Carnap became a professor in 1936 and stayed there until 1952. During those sixteen years, he launched his “Studies in Semantics” book series and laid down the foundations of analytic philosophy in many respects.

The latest volume of *The Collected Works of Rudolf Carnap*, edited by Steve Awodey and Greg Frost-Arnold, is Volume Seven and dedicated to the “Studies in Semantics” series. Carnap published three books, “Introduction to Semantics” (*IS*) in 1942, “Formalization of Logic” (*FL*) in 1943, and “Meaning and Necessity” (*MN*) in 1947. Although they were preceded by Carnap’s *Foundations of Logic and Mathematics* in 1939, which already contained many important semantical results and considerations, this volume focuses just on the book series.

It would be hard to overestimate the significance of these monographs. *IS* was not just the first book-length, comprehensive study on semantics and its application to logic, science, and linguistic analysis in the history of Anglophone analytic philosophy (although Tarski’s *Introduction to Logic* is a relevant ancestor.) It was seen by many as a breaking point in Carnap’s philosophy and the movement of logical positivism in general. In his editorial introduction, Frost-Arnold details the various contemporary reactions to this book (and to the two others as well), and highlights how Carnap’s estimation was changing in the recent secondary literature.

Many colleagues, among others Ernest Nagel, Max Black, Otto Neurath, were happy to support Carnap’s syntactical project from 1934, whose aim was to purify philosophy from extra-linguistic meanings and referents, placing the work of philosophy on solid formal grounds. But following the publication of *Logische Syntax der Sprache* (which will be the subject of Volume Five in the collection), Carnap had second thoughts because of Alfred Tarski’s influence. He quickly left behind some of the main insights of his syntactical phase and started to work on such semantical notions as “truth”, “denotation”, “reference”, “correspondence”. *IS* is the most detailed and comprehensive study resulting from this process and engagement.

IS also marks the major divorce between Carnap and Otto Neurath (documented in their previously published correspondence), where the latter argued that the semantical analysis brought



back some sort of Aristotelian metaphysics that genuinely contradicts the spirit and letter of logical empiricism and unified science. Although it is still debated how strong Neurath's arguments were against Carnap, they counted nothing in Carnap's workload, as he published his second volume in the series already during their heated correspondence (although *FL* was finished years before *IS*).

FL was a major attempt to reformulate the syntactical structure and formalization of logic, where Carnap found serious issues in the regular (or normal) interpretations. As Frost-Arnold shows, *FL* had a negative project (posing and discussing the formalization problem) and a positive project (Carnap's own proposal to mitigate the problem). From the three books, *FL* was the most technical, and perhaps the least influential among philosophers. While *IS* set the stage for semantics and its philosophical relevance, *FL* had less resonance and emerges only occasionally in the current literature (see xxxvi).

The third volume included, *Meaning and Necessity: A Study in Semantics and Modal Logic*, which is another classic in the history of analytic philosophy. In this work, Carnap provided the first systematic and comprehensive semantics for modal logic. Published a decade before Saul Kripke's revolutionary model-theoretic (so-called possible-worlds) semantics, Carnap was formulating important insights in his linguistic approach. These included the relation between existential and the universal quantification and possibility and necessity, or Carnap's "state descriptions" that often compared to Kripke's possible worlds, although the former's philosophical system certainly lacked the metaphysical component and connotation that Kripke's had in the 1970s with *Naming and Necessity*.

Frost-Arnold discusses in some detail Carnap's relation and indebtedness to Frege about the notion of "meaning" and "reference" in the work, and how Carnap distinguished famously "extension" from "intension", initiation the intensional revolution of philosophy (despite C.I. Lewis' similar attempts as a reaction to Russell's idea of material implication). That does not mean, of course, as Frost-Arnold points out (xlv. ff.), that Carnap's semantics were not spared of the criticism that it is itself metaphysical at its roots (just like Neurath attacked the 1942 volume).

The editorial introduction ends with a short overview of the "post-Carnapian" semantics after 1947. Although Carnap will come back from time to time to semantics (as in his 1963 Schilpp-volume, and posthumously published lectures), he never developed such a systematic semantics as before. His reception history is, though, more complicated. As Frost-Arnold notes, Carnap's notions, definitions, and theories were rarely taken up by friends and colleagues in their own

theories, but they “served as a foil for subsequent philosophers, a stone on which to sharpen their own thoughts and arguments” (1). Carnap set the problems on which generations of philosophers and logicians were to work from the 1940s onward, but his solutions remained almost entirely his own.

From that point of view, “Studies in Semantics” is important mostly from a historical point of view, and it does not really serve as an inspirational source to solve contemporary issues. But for the former reason, this edition would be perfect for the interested reader and for researchers alike. Every text is followed by some contextual information about its original development, and numerous pages of notes and marginalia from Carnap’s personal copy. These notes make the volume not just vivid and engaging for the reader but shows clearly Carnap’s reflections from various time-periods and thus they hint at his personal and scholarly development, which is crucial for every historian to understand the mid-century events and issues of analytic philosophy in general, and the fields of semantics and logic in particular.

The edition is yet again professionally made, and shows all the signs of a carefully prepared scholarly volume. It has a very useful and detailed editorial introduction, each of the included monographs are supported by remarks, notes, and helpful comments, and the book is closed with a general index. Although the volume is very expensive, it contains, after all, three books, a long introduction, and countless pages of notes and helpful extra material, thus no Carnap researcher can afford not to have one at home.

Adam Tamas Tuboly, Institute of Philosophy, Hungarian Academy of Sciences