

FORMAL LOGIC AND DIALECTICAL-MATERIALISM IN THE SOVIET UNION

Fania Cavaliere, *La logica formale in Unione Sovietica: Gli anni del dibattito, 1946 – 1965* (Firenze, La Nuova Italia Editrice, 1990. 140pp., Lira 42.000) and A.R.D. Mathias, "Logic and Terror," *Jahrbuch 1990 der Kurt-Gödel-Gesellschaft* (Wien, Kurt-Gödel-Gesellschaft, 1991), 117–132.

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§1. There have been no sustained histories of the over-all development of Soviet work in logic since the appearance in 1959 of Sof'ya Aleksandrovna Yanovskaya's hundred-plus page survey on "Mathematical logic and foundations of mathematics" in the USSR of the period 1947–1957. This survey was preceded by Yanovskaya's far shorter survey on "Foundations of mathematics and mathematical logic" in the USSR for the period 1917–1947, which appeared in 1948. Although this earlier historical survey covered four decades, compared to the single decade surveyed by Yanovskaya's later work, the older paper was far shorter — by about sixty percent.

Cavaliere's book is the first serious and extended recent treatment of a crucial period in Soviet intellectual life, and in particular of the philosophical issues that led to, and help explain, the differences between Yanovskaya's two surveys. It is not the case that there was far less work in logic being carried out by Soviet researchers during the 1917 – 1947 period than during the following decade. In fact, much important work was done in logic, set theory and foundations during the immediate post-revolutionary period. One needs only think of the names of Kolmogorov, P.S. Aleksandrov, P.S. Urysohn, and N.N. Luzin, to name only the better-known Soviet logicians and set theorists of the period, to realize that important work was being carried out in intuitionistic logic, set theory, and theory of analytic functions by Soviet logicians. To this list of more familiar names, may be added the names of other figures, no less important, but less well known — for example D.A. Bochvar (b. 1903), who contributed to set theory and who offered non-classical systems as a means of dealing with the Russell paradox, and Ivan Ivanovich Zhegalkin (1896-1947), who in 1927–29 developed truth-tables for propositional logic, independently of Wittgenstein, Post, or Łukasiewicz, all in 1921 (and even for first-order quantification theory). The