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REVIEW

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Antonova and company's biobibliographic *spravochnik* (reference book) of logic in Russia and the USSR is the successor of the *Bibliografiya po logike. Khronologicheskii ukazatel proizvedenii po voprosam logiki, izdannykh na russkom yazyke v SSSR v XVIII–XX vv.* [Primakovskii] of Aleksandr Petrovich Primakovskii (1901–?), whose titles cover the period from 1748 to 1955, and include translations into Russian from other languages, as well as native Russian works.

Bibliographers A. M. Zozulya and O. P. Fomin, in their [Zozulya & Fomin] review of Primakovskii's bibliography, warn users of its inaccuracies and imperfections; they assert that it is badly organized and plagued by numerous errors. As an example of one such potential error, we may mention that Primakovskii's [Primakovskii, 20] bibliography gives the year of first publication of M. S. Volkov's *Logicheskoe ischislenie* [*Logical Calculus*] as 1888. Now more complete bibliographical information is ostensibly obtained from a search in the Online Union Catalog World Catalog), which, however, gives the first year of publication as 1889—as does [Risse]. Nevertheless, in the work here under review, Antonova *et alia* reaffirm 1888 as the year of the first appearance of Volkov's book, and not only refer back to Primakovskii's bibliography, but also provide references to reviews of Volkov's book by V. Strelakov [Strelakov] and algebraic logician Platon Sergeevich Poretskii (1846–1907) [Poretskii], both showing Volkov's book as having appeared in 1888, and, most significantly, listing an anonymous

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review of Volkov's book in the periodical *Russkaya mysl'* dating from December 1888. But no new details on Volkov are forthcoming on Volkov's identity in the *Spravochnik* than in Primakovskii's bibliography.¹

The biobibliography compiled by Antonova, Miloslavov, and Sokhor belongs to the tradition of Primakovskii's bibliography. In the preface (pp. 3–4) they pay tribute to Primakovskii's work, but note that its contents reflects the attitudes towards logic that was typical of Soviet philosophers in the 1950s. Primakovskii's bibliography includes works from the prerevolutionary era (i.e., pre-1917) as well as dissertations and other studies produced in Russia at a time when [formal] logic, having long been "interdicted" was at last being again "approved" (p. 3).² They also note that Primakovskii was himself not a professional logician, but a bibliophile.

Primakovskii's work was arranged chronologically. Antonova and her collaborators arrange their work alphabetically by author, and, wherever possible, provide as well a minimal amount of biographical information on each author (where known), such as birth and death years and place, degrees obtained, and professional post(s). In some cases, only the initials of the first name and patronymic are given, where these are not known.

The *Spravochnik* opens with a thumbnail sketch on the history of logic in Russia (pp. 5–14) by Vladimir Ivanovich Kobzar' (b. 1938). By its brevity, it can be little more than a list. It covers the period from Andrei Mikhailovich Kurbskii's (1528–1583) work on the various editions of Johann Spangenberg's (1488–1550) *Dialectica* through the beginning of the twentieth century, including the busy nineteenth century, especially the second half, which saw, for example, the contributions to algebraic logic of Platon Sergeevich Poretskii (1846–1907) and

¹I have surmised, however, that the author of the *Logicheskoe ischislenie* is likely to be Mikhail Sergeevich Volkov (fl. 1880–1895) who also published the *Evolutsiya ponyatiya o chislie* [Evolution of the Concept of Number] [Volkov 1899].

²The best and most complete treatment of the precarious status of formal, and especially of "mathematical" logic in the Soviet Union in the Stalinist era remains [Cavaliere]. The most complete treatment yet by Russian investigators of this phenomenon is [Bazhanov 1994, Bazhanov 1995, Bazhanov 2001], who writes of the "*posleoktokyabr'skii filosofitsid*"—the "post-October 'philosophicide'" and the "*pervannyi polet*"—"interrupted flight"—of logic; his investigations have also undertaken to understand the behavior of leading figures in logic, such as Sof'ya Aleksandrovna Yanovskaya (1896–1966), in their efforts to accommodate to, and come to terms with the dialecticians' violent rejection of mathematical logic (see, e.g., [Bazhanov 2001]), without excusing their actions.

Evgenii Leonidovich Bunitskii (1874–1952), not to mention the studies by Mikhail Ivanovich Karinskii (1840–1917) and Leonid Vasil'evich Rutkovskii (1859–1920) of theories of deduction, induction, and classifications of proofs, little more than six pages (pp. 5–11). The remainder of Kobzar's historical survey (pp. 11–14) divides the twentieth century into six periods. The first period (1900–23) covers the period of “flight” of comparative progress and freedom which in the next period, of the institution of strict Stalinism, interrupted. The second period (1924–38) was, then, the period of repression [*goneniya*] of all formal logic, in favor of dialectical logic, although traditional formal logic fared slightly better than modern formal logic. Here, traditional Aristotelian logic could be conceived only as the static fragment of dialectical logic, which is dynamic (where $A = A$ was just a special, limited case, of $A \neq A$), and Marx, Engels, and Lenin were the final arbiters of what could count as logic. The third period (1939–46) was a period in which there was a recognition of the necessity of the inclusion of logic in the educational processes, and logic rehabilitated as an educational discipline, both on its own accord and as well for its value for the sciences. The impetus for this came from Stalin (Iosif Vissarionovich Stalin, *né* Dzhugashvili; 1879–1953). In these years, logic was reintroduced into secondary education, and in September 1944 Professor Sergei Innokentevich Povarnin (1870–1952) became the first to hold a chair in logic in the Philosophy Faculty of Leningrad State (now again Saint-Petersburg) University. The fourth period (1947–60) covered the critical years of the establishment of departments of logic in the major universities of the USSR and the introduction of new textbooks in logic, some of which, such as Valentin Ferdinandovich Asmus's (1884–1975) [Asmus] *Logika*, were nonetheless savagely attacked, as purveying “bourgeois symbolic logic.” The fifth period (1961–89) was one of comparative calm, and formal logic, both traditional [Aristotelian] and mathematical, as well as dialectical, were given fairly wide play. The sixth and final period, for the remainder of the twentieth century, was one in which the subject of logic was cleansed and formal logic was firmly separated from dialectical logic.

The fifth period identified by Kobzar' is one, we might add, in which Soviet logicians made extremely significant contributions to mathematical logic and to its specialized fields, perhaps most notably in recursion theory. In the *Spravochnik* we will indeed find listed the names of such crucial and internationally-reputed figures as Yuri Leonidovich Ershov (b. 1940) and Yuri Vladimirovich Matiyasevich (b. 1947), along with those of such older and internationally renowned figures as Anatolii

Ivanovich Mal'tsev (1909–1967), Andrei Andreevich Markov (1903–1979) and Pëtr Sergeevich Novikov (1901–1975). By and large, however, their more technical work is not included in the *Spravochnik*. Missing, for example, are Ershov's crucial three-volume book *Teoriya numeratsii* [Ershov 1969–74], deemed of sufficient import to warrant republication in a major logic research journal [Ershov1973–7], and Matiyasevich's work giving a negative solution to Hilbert's Tenth Problem of whether there is an algorithm for deciding whether there is a solution in the integers for polynomial diophantine equations, as recounted and explained in his book *Hilbert's Tenth Problem* [Matiyasevich].

It would be difficult, and consequently unfair, to declare whether this sort of serious lacuna were the result of accidental or deliberate omission, a matter of purposeful neglect or mere indifference, or of simple ignorance on the part of the compilers. In the case of Ershov, for example, we see listed his logic textbook [Ershov & Palyutin] and a paper on Gödel, of undoubted interest to logicians working in philosophy, as well as to philosophers of logic. But, to render a final verdict, we are obliged to attest that this is a reference work by and for philosophers whose interest does not go far beyond the confines of the typical philosophy-department introductory graduate course in “symbolic logic” and philosophy-department graduate courses in philosophy of logic, and philosophical and non-classical logics. But perhaps this is precisely as it should be, since the *Spravochnik* was, after all, carried out under the auspices of the Saint-Petersburg University Philosophy Faculty.

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