MINING OF RUSSELL

Russell and Analytic Philosophy, ed. A. D. Irvine and G. A. Wedeking. Toronto, University of Toronto Press, 1993, and *Introduction to Mathematical Philosophy*, by Bertrand Russell. New York, Dover, 1993, reprint of 1919/1920 edition, London, Allen & Unwin.

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This inexpensive ($6.95) reprinting of Russell's classic in the philosophy of mathematics and the recent anthology on his work are most welcome additions to Russellian studies. Like so much of his work, Russell's book merits regular revisitations by logicians and philosophers. The anthology features significant contributions by many of the major figures working on Russell today. They draw on newly accessible material by Russell either recently published in the emerging volumes of his *Collected Papers* or yet unpublished in the Russell archives at McMaster University. Irvine and Wedeking provide a helpful introduction. The sections numbers below correspond to those in the anthology.

Besides his well-known discussions on the definition of number and the logicist thesis that mathematics and logic only "differ as boy and man," (IMP, 194), Russell argues that mathematical induction is a defining feature of natural numbers, "not a principle" (IMP, 27) synthetic a priori, as Poincaré had claimed. He discusses relations, serial and cyclic order, and the similarity of relations, today called isomorphism.

Russell analyzes the notions of limit and continuity, and shows that, unlike what we may suspect from studying the differential calculus, the two notions apply not to numbers and functions only, but to any ordered series, such as points on a line, or perhaps moments in time. (IMP, 104) He analyzes Dedekind's and Cantor's concepts of continuity, in which each element "is what it is, quite definitely and uncompromisingly; it does not pass over by imperceptible degrees into another." (IMP, 105) Applauding Weierstrass, he shows that applying these notions to functions does not require infinitesimals, quantities that "involve . . . intervals that are not