THE BULLETIN OF SYMBOLIC LOGIC
Volume 8, Number 3, Sept. 2002

REVIEWS

The Association for Symbolic Logic publishes analytical reviews of selected books and articles in the field of symbolic logic. The reviews were published in ***The journal of symbolic logic*** from the founding of the JOURNAL in 1936 until the end of 1999. The Association moved the reviews to this BULLETIN, beginning in 2000.

The Reviews Section is edited by Herbert Enderton (Coordinating Editor), Geoffrey Hellman, Thomas Jech, Wolfram Pohlers, Philip Scowcroft, and Alasdair Urquhart (Managing Editor). Authors and publishers are requested to send, for review, copies of books to the *Association for Symbolic Logic, Box 742, Vassar College, 124 Raymond Avenue, Poughkeepsie, NY 12604, USA*.

In a review, a reference "JSL XLIII 148," for example, refers either to the publication reviewed on page 148 of volume 43 of the JOURNAL, or to the review itself (which contains full bibliographical information for the reviewed publication). Analogously, a reference "BSL VII 376" refers to the review beginning on page 376 in volume 7 of this BULLETIN, or to the publication there reviewed. "JSL LV 347" refers to one of the reviews or one of the publications reviewed or listed on page 347 of volume 55 of the JOURNAL, with reliance on the context to show which one is meant. The reference "JSL LIII 318(3)" is to the third item on page 318 of volume 53 of the JOURNAL, that is, to van Heijenoort's *Frege and vagueness*, and "JSL LX 684(8)" refers to the eighth item on page 684 of volume 60 of the JOURNAL, that is, to Tarski's *Truth and proof*.

References such as 65***1*** or 247***8*** are to entries so numbered in *A bibliography of symbolic logic* (the JOURNAL, vol. 1, pp. 121–218).

J. P. MAYBERRY. ***The foundations of mathematics in the theory of sets.*** Encyclopedia of mathematics and its applications, vol. 82. Cambridge University Press, Cambridge 2000, New York 2001, etc., xx + 424 pp.

Part One, consisting of Chapter 1 on the idea of foundations of mathematics and Chapter 2 primarily on the notion of *arithmos* in Greek arithmetic, sets the agenda. In the first chapter: "To expound those foundations [of mathematics] systematically, one must provide three things:" an account of "the fundamental *concepts* of mathematics [and] the *objects* that fall under those concepts," an account of "its *axioms*," and an account of its "*logic*" (pp. 8–9). The author takes as "a straightforward observation" that "the foundations of all of mathematics, including mathematical logic and the axiomatic method, now lie in the theory of sets" (p. xiii). So the foundations of mathematics are in fact the foundations of set theory, and, to expound this foundation, we must give an account of the basic concept of set, of sets, and of the logic of set theory. It seems to follow then that the logic of set theory is not mathematical logic and set theory is not itself an axiomatic theory; and indeed that is so from the author's point of view.

So which propositions about the universe of all sets are true is not determined by the axioms; rather the axioms themselves are subject to a requirement that, in some prior sense, they be true. Chapter 2 is to provide the content of these propositions, on the basis of which they become true or false. The author notes that the term "arithmos" in classical Greek mathematics meant something like finite set and it is this notion that he wants to identify

© 2002, Association for Symbolic Logic
1079-8986/02/0803-0005/$3.20