at the time of the outbreak of the war in 1939, developments made during the last decade are covered to only a limited extent.

The reader is referred to a review of the original edition of volume I by the present reviewer (Bull. Amer. Math. Soc. vol. 40 (1934) p. 787) for comments still largely applicable to the new edition, to a review of the new edition of volume I by J. H. Roberts (Mathematical Reviews vol. 10 (1949) p. 389) for a detailed comparison of the old and new editions and to a review of volume II by E. G. Begle (Mathematical Reviews vol. 12 (1951) p. 517) for detailed indication of the content of volume II. The two volumes comprise a historic contribution to mathematical and topological literature and will need to be a part of the library of every individual interested in or making use of the results of topology.

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The elements of mathematical logic. By P. C. Rosenbloom. New York, Dover, 1950. 4+214 pp. $2.95.

This book is intended for mature mathematicians with no previous knowledge of mathematical logic. Chapter I deals with Boolean algebras and includes the Stone representation theorem. Chapter II is entitled *The logic of propositions.* Truth tables are explained and there are three alternative formulations of the propositional calculus and a number of tautologies are proved. There is also a finitary formulation which incorporates part of the syntax in the object language which is therefore unusually rich. Next the relation between Boolean algebras and propositional calculus is explained and the final section of this chapter contains a very interesting discussion of many-valued and modal logics and of intuitionism. It includes some material on Post algebras and formulations of intuitionistic propositional calculus and Lewis' basic logic. Chapter III, on *The logic of propositional functions,* begins with an informal discussion of intuitive class theory and the Russell paradox. It shows that some restriction on the method of class formation is necessary and different methods of doing this are briefly mentioned. After this there is in §2 a formulation of the monadic first order functional calculus and an extension to polyadic functional calculus. The Peano axioms are then adjoined to get a system adequate for arithmetic. §3 begins with an exposition of the pure first order functional calculus, followed by a brief account of the theory of types, the system of Quine's new foundations and finally of Zermelo's system. Bernays' system is also mentioned, but von Neumann's only in the bibliographical notes (p. 202): "Other formulations of Zermelo's system have been given