Complex Numbers and Conformal Mapping, by A. I. Markushevich. Russian Tracts on Advanced Mathematics and Physics, Vol. XI. Authorized English Edition, Hindustan Publishing Corp. (India) Delhi, 1961; Gordon and Breach Science Publishers, New York. 62 pages. $4.50.

In this elementary book real and complex numbers are introduced as vectors on a line and in a plane respectively. Accordingly addition and multiplication are defined geometrically. The second chapter "Conformal Mapping" analyzes primitive mappings like $z' = z + a$, $z' = cz$. There is also a discussion of the general idea of a conformal mapping. Chapter III gives an entirely untechnical discussion of cartographical mappings, applications of conformal mapping in aerodynamics (profiles), a nice picture of Zhukovsky "whom Lenin called, in all fairness, the 'Father of Russian Aviation'". On pp. 35-57 we find a detailed study of the mappings $z' = (z - a)(z - b)^{-1}$, $z' = z^2$, and the "Zhukovsky function" $z' = \frac{1}{2}(z + z^{-1})$. The book closes with 10 simple exercises with hints.

With regard to its intentions the book could be recommended to interested highschool students for whom the well-known author has probably written the Russian original. But the (unnamed) translator's mastery of the two languages concerned does not appear to be adequate for the translation of the little work. The exorbitant price will prevent it from having a wide circulation.

H. Schwerdtfeger, McGill University

Eléments de Mathématiques, Livre III, by N. Bourbaki. Topologie générale Part I, Chapters 1-4. Troisième edition Hermann, Paris, 1961. Actualités scientifiques et industrielles 1142 et 1143. 263 + 236 pages. 72 N.F.

The first two chapters of this third edition have been completely reset, mainly in order to bring the treatment in line with the ideas of morphisms of structures and universal mappings introduced in Chapter IV of Ensembles. The most significant additions: The introduction of quasi-compact spaces and projective limits and the more extensive treatment of open mappings, closed mapping and proper mappings (i.e. mappings whose cartesian products with any identical mapping are closed).

Chapters III and IV have been revised and enlarged. The theory of topological groups is made to lean more heavily on the idea of a group operating continuously in a topological space. Two new sections have been added. One dealing with groups which operate "properly" in a space, this being a generalization of the concept of "properly discontinuous" groups and leading in a natural manner to the properties of compactness in topological groups. The other concerns itself with projective limits in topological groups and rings.

M. Shimrat, University of Alberta, Calgary

Fonctions hypergéométriques de plusieurs variables et résolution analytiques des équations algébriques générales, by G. Belardinelli. Memorial des Sciences Mathématiques, Fascicule CXLV, Gauthier-Villars, Paris, 1960. 74 pages. $3.25.

This short monograph consists of two parts: The first summarizes the required properties of hypergeometric functions of several variables, and the second applies these results to the solution of algebraic equations in terms of these functions. The main theme consists of the results of Mellin, Capelli, Birkeland and the extensive researches of the author. These results have previously been widely scattered in the literature, and the author has performed a valuable service in unifying this material.

H. Kaufman, McGill University

Confluent Hypergeometric Functions, by L. J. Slater. Cambridge University Press and MacMillan Co. of Canada Ltd., 1960. ix + 247 pages. $11.25.

An excellent account consisting of six chapters which summarize the important properties of these functions, and three appendices which give values of ${}_1F_1[a; b; x]$ for $a = -1.0(0.1)1.0$, $b = 0.1(0.1)1.0$, $x = 0.1(0.1)10.0$, values of ${}_1F_1[a; b; 1]$ for $a = -11.0(0.2)2.0$, $b = -4.0(0.2)1.0$, and a table of the smallest positive zeros of ${}_1F_1[a; b; x]$ for $a = -4.0(0.1)-0.1$, $b = 0.1(0.1)2.5$. The utility of the tables could have been enhanced by extending the range of x to negative values. The only extensive tabulation of these values appears to be that given by Middleton and Johnson (Cruft Lab. Technical Report 140, Harvard University, January 1952).

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