Both because of these minor blemishes and for the sake of wider influence, it is to be hoped that the author will return to his theme and at once revise and expand his essay. There exists, outside mathematics, a considerable literature of "creators' confessions" in which he would find support and amplification of his results.

JACQUES BARZUN

Table of arc sin x. Prepared by Mathematical Tables Project, National Bureau of Standards. New York, Columbia University Press, 1945. 19+124 pp. $3.50.

The principal table lists the values of arc sin x to twelve decimal places at intervals of .0001 for the range $0 \leq x \leq .9890$ and at intervals of .00001 for $.9890 \leq x \leq 1$. The second central difference is also tabulated. The methods and accuracy of interpolation are discussed in the introduction. For example, using the Gregory-Newton formula through second differences one may obtain to twelve decimals the arc sine of an argument (in a suitable range) given to seven decimals. This operation may be carried out conveniently on a ten-bank calculating machine. There are six short auxiliary tables which facilitate interpolation.

E. R. LORCH

Tables of associated Legendre functions. Prepared by Mathematical Tables Project, National Bureau of Standards. New York, Columbia University Press, 1945. 46+306 pp. $5.00.

Work on these tables was begun in 1940 to meet an urgent need for a table to six significant figures at intervals of 0.1. As here presented, the tables are subject to difficulties in interpolation in the neighborhood of certain values of the argument. The Mathematical Tables Project hopes to carry out a subtabulation program which will eliminate these difficulties. Since the date of completion of this program is very uncertain, the tables so far completed are herewith made available.

There are fourteen principal and five supplementary tables. For example, table I gives the values of $P_n^m(\cos \theta)$ for values of n from 1 to 10, of m from 1 to 4 $(m \leq n)$ and of θ from 0° to 90° in intervals of 1°; results are given to six significant figures. Also tabulated are $dP_n^m(\cos \theta)/d\theta$, $P_n^m(x)$, $1 \leq x \leq 10$; $Q_n^m(x)$, $1 < x \leq 10$; its derivative; and other variations of these functions involving pure imaginary arguments and half integral values of n. Dr. Lowan has written an

introduction detailing the methods of computation and of checking the manuscript. There is a valuable bibliography listing cognate material.

E. R. LORCH

Note. In the November, 1945, issue of this BULLETIN appear reviews of *Mathematical theory of optics* by R. K. Luneberg and of the *Supplementary notes* which accompany the book. Inadvertently M. Herzberger was credited with the authorship of all four notes. N. Chako and A. A. Blank were, in fact, the authors of the first note.