FUNCTIONS OF TWO COMPLEX VARIABLES.

Lectures Introductory to the Theory of Functions of Two Complex Variables. By A. R. FORSYTH. Cambridge University Press, 1914. xvi + 281 pp.

THE present volume consists substantially of a course of lectures delivered in the University of Calcutta in January and February, 1913, in response to a special invitation of the authorities accompanied by a stipulation that the lectures should be published. What was desired was an exposition of some subject that might suggest openings to those who had the will and the skill to pursue research. In accordance with this wish the author selected the theory of functions of two complex variables, a subject still in a preliminary stage of its development and one into the exposition of which he could incorporate a considerable body of results of his own.

No attempt is made to give a systematic discussion of the whole subject nor is attention concentrated upon one particular issue. Several distinct lines of investigation are dealt with, even though this required that their treatment should be relatively brief. The essential purpose throughout was to deal with a selection of principles and of generalities belonging to the initial stages of the theory of functions of two complex variables; and this was accompanied by the desire to establish some new results and to suggest some new problems of investigation.

The substantial results of the theory of functions of a single complex variable are assumed to be so familiar to the reader that only brief and indirect reference to them will usually suffice. Almost everywhere in the exposition the number of independent variables is restricted to two. Many of the propositions may readily be modified so as to apply to the case of n variables; but this is not always true. Consequently we have on the one hand a range of results which belong essentially to functions of more than one variable and on the other hand another range of results belonging essentially to functions of just two variables. Typical of the latter is the theory of quadruply periodic functions of two variables.

At several places the author has departed from the usual custom of dealing with only a single function of two complex