

MATHEMATICS FOR THE LAYMAN

Mathematical Philosophy. A Study of Fate and Freedom. By Cassius J. Keyser. New York, E. P. Dutton and Co., 1922. 14 + 466 pp.

An author who attempts to give a popular exposition of any technical doctrine, be it in science, in art, or in philosophy, who (to use Professor Keyser's own words) aims to make a "contribution to the democratization of science and scientific criticism," faces a peculiarly difficult dilemma. He must beguile the layman's interest without being superficial; he must achieve adequate depth without being dull. A work of popularization, moreover, to fulfill its highest mission must be not merely descriptive or informative, but also interpretative. No one would probably deny the crying need of our age for popularizing books in all fields of technical inquiry satisfying these demands. And yet how meager the supply!

Professor Keyser has succeeded in meeting these conflicting demands in a remarkable way. His lectures were prepared primarily for students of philosophy; his book is addressed, however, to "educated laymen" in general. The appeal of its interest is very wide. It aims to discuss "the nature of mathematics, its significance in thought, and its bearings on human life." A large program, carried through with notable success! This does not mean, of course, that the last word has been said, that there is not room for difference of opinion, that many important fields of inquiry have not been left untouched. It does mean, however, that Professor Keyser has made a very significant contribution to the solution of the problem he set himself and that he has set up a standard of excellence which books of similar purpose and scope will find it difficult to meet.

The introductory lecture contains a discussion of the fundamental aims of education which is one of the finest things in the book. Many of our influential educators would confer a boon upon their country were they to repair to a mountain top, far away from the tangled undergrowth of short-sighted policy, and there read and ponder this discussion and let their souls commune with the educational ideal there presented. Such an educator might return to the uncharted wilderness of practical problems with a new vision and a more reliable compass.

The next eight lectures deal with various aspects of postulate systems. The point of view is that of Russell and Whitehead and much emphasis is laid on the alleged identity of pure mathematics and symbolic logic. Personally I would question the desirability of arbitrarily restricting so well established a term as "pure mathematics" to the meaning implied in such identification. Why not call the class of doctrinal functions "abstract mathematics" or "formal mathematics," or, if one really believes in the alleged identity, "formal logic"? Quite aside from this verbal problem, however, it seems to me that there is a real distinction between the problem of formal logic and the investigation of the various doctrinal functions—