

are simple proofs and that the theory is to be used, instead of being laid away on a shelf. Let this be a stimulus to the textbook writer, but let him beware of slavish copying. For we must build on what the student has already learned in the secondary school, and it is questionable whether the topsy-turvy treatment of logarithms, exponentials, and trigonometric functions here given could be "put across" to the average beginner. Finally it must not be forgotten that the most difficult parts of calculus to make rigorous and at the same time simple and concise are those applications to geometry and mechanics which Professor Landau eschews. There is still work to be done.

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*Introduction to General Topology.* By W. Sierpinski. Translated from the Polish by C. Cecilia Krieger. The University of Toronto Press, 1934. 235 pp.

Topology, long considered as more or less outside the pale of "normal" mathematics, is at last coming into its own. It has passed in the last few years from the pure "mémoire" to the book stage. The number of treatises on diverse phases of the subject is still restricted enough. We can only welcome therefore the present volume by the leader of the Polish school, and thank the translator for having made it available to the non-Polish mathematical public.

Professor Sierpinski's treatise is of modest proportions, and deals exclusively with the abstract space side of the question. It is the work of a "purist" and shows little trace of the steady drift towards combinatorial topology on the part of those particularly interested in the applications of the subject, or in its contacts with other branches of mathematical science. The postulates are carefully defined, their inter-relations investigated in detail and with thoroughness. The author has very wisely chosen the class of open sets as fundamental in defining topological spaces, a procedure amply justified by experience. Without indulging in a description of topics, we may mention that metrization is fully treated, but dimensionality barely touched upon at the end.

This is the second volume of a more extensive series probably projected by the eminent author, the first of which (translated into French) dealt with transfinite numbers. Are we to hope for a third volume, which, as the program would seem to indicate, would begin with the Urysohn-Menger theory?

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