nisms, and electric networks and filters, are used as illustrations and discussed in great detail. The author was a pioneer in the systematic use of the Laplace transform for solving differential equations; although he admits that everything that can be done for a single equation can also be done without the Laplace transform, he defends the technique ably and claims that it is indispensable when systems of differential equations are to be solved. There is probably no better place to read about this technique than in this book: mathematical accuracy is always respected and possible pitfalls are pointed out, while at the same time close contact is maintained with the requirements (and terminology) of the engineer.

Partial differential equations, difference equations, and integral equations are to be dealt with in the third volume.

R. P. Boas, Jr.

Combinatorial topology. Vol. 1. By P. S. Aleksandrov. Trans. by Horace Komm. Rochester, Graylock Press, 1956. 16+225 pp. $4.95.

This is a translation of the first third of Aleksandrov's *Kombinatornaya topologiya* (Moscow-Leningrad, OGIZ, 1947). It consists of the first six chapters preliminary to the formal homology theory, and an appendix. This translated part can be understood by a reader without any specific prerequisite. However a certain amount of mathematical maturity is required of the reader.

Chapter I is a survey of the fundamentals of general topology. Many theorems in this chapter are not used in the sequel. Proofs of such theorems are often omitted, but references are given.

Chapters II, III and V are devoted to a rigorous treatment of geometrically intuitive material. Chapter II presents E. Schmidt's proof of the Jordan curve theorem. The topology of surfaces is developed in Chapter III, where one finds a detailed account of Alexander's derivation of the normal forms of closed surfaces. This chapter on surfaces leads naturally to geometric complexes and related notions, which are introduced in Chapter IV. Chapter V deals with Sperner's lemma and its applications to the Pflastersatz, Brouwer's theorem on the invariance of domain, and the Brouwer fixed point theorem. These chapters II, III and V acquaint the reader with several elementary but important topological facts, and thereby provide an excellent background experience in topology.

The final Chapter VI, of more abstract nature, is an introduction to that part of dimension theory which makes no use of homology theory. Only compact metric spaces are considered. Based on the covering definition of dimension, the chapter begins with the theorem