These very detailed tables are likely to become an indispensable tool for the practical application of the double Laplace transformation.

The publishers must be congratulated on the excellent performance of a typographical job (the tables) which presents considerable technical and financial difficulties.

A. ERDÉLYI

Mathematische Grundlagenforschung. By Arnold Schmidt. (Enzyklopädie der Mathematischen Wissenschaften, Band I_1, Heft 1, Teil II.) Leipzig, 1950. 48 pp.

This article was originally written in 1939, but was revised in 1948–49, so as to include reference to more recent contributions. It consists of an exposition of "those parts of foundation studies which are either directly concerned with the construction of mathematics, or in which the application of mathematical methods has proved fruitful." The author confines himself almost entirely to the foundations of arithmetic, and does not attempt to deal with such topics as set theory, group theory, or geometry, nor with the problems proper to mathematical logic itself.

The article consists of four parts: (A) *Axiomatik und allgemeine Beweistheorie*; (B) *Kodifikation und Beweistheorie der Zahlenlehr*; (C) *Die logische Begrundung der Mathematik*; and (D) *Intuitionistische Mathematik.*

In Part (A), the author explains what is meant by the formalization of a mathematical system, and introduces some metamathematical terms. He then shows (following Gödel) that every system which contains arithmetic also contains its own syntax in arithmetical form, and proceeds to sketch a proof of Gödel's theorem (as strengthened by Rosser): that a system which contains its own syntax in arithmetical form cannot be both consistent and complete. Among other results of a negative character mentioned here are a second theorem of Gödel, that a consistent system containing its own syntax in arithmetical form cannot be shown to be consistent by any proof which can be formalized within the system, and the theorem of Tarski that, in a system which contains its own syntax in arithmetical form, one cannot define truth for the system itself.

Part (B) begins with a brief sketch of the theory of recursive functions. The result of Péter is cited, that one can keep on getting new recursive functions by increasing the number of variables in primitive recursions. Some of the various equivalent methods of defining gen-