The reader—specialist in topology or not—will find particularly interesting the elementary proof of Brouwer's fixed-point theorem for closed n-cells and the use of this theorem in showing that the dimension of E_n (Euclidean n-space) is n; Hurewicz's beautiful proof that every n-dimensional space can be imbedded in E_{2n+1} and the use of the technical devices in that proof in establishing the relation between dimension and the orders of coverings; the systematic use of the notion of extension (of a mapping or homomorphism); a separation theorem for homeomorphs of $(n-1)$-spheres in E_n as a corollary of a theorem about mappings; a discussion of the relation between dimension and measure; a number of remarks about spaces of infinitely many dimensions; an exposition of Čech homology theory and the dual cohomology theory; the use of cohomologies in questions about mappings and their extensions. It is understood throughout the book that "space" means "separable metric space." A short appendix contains an account of the difficulties which arise in extending the theory to more general spaces.

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The Laplace Transform. By David Vernon Widder. (Princeton Mathematical Series, no. 6.) Princeton University Press, 1941. 10+406 pp. $6.00.

The theory of integral operators has developed into a major branch of analysis. It has proved to be a valuable, in fact essential, complement to the theory of differential equations, while its logical structure is more satisfactory in the sense that one deals in general with equivalences, rather than the sufficient conditions of differential equations.

As one might expect, the theory of integral operators, even in the linear case, also has complementary subdivisions. There is the well known spectral theory, which while highly effective when applicable, seems to be closely confined to functions in L_2. For other classes of functions, there have been investigations of particular operators, for example the Fourier transform.

But besides the Fourier transform, there are others which have been investigated for more than a century and it is to certain of these that the present work is devoted. However, the author also presents various applications of integral transforms (including the Fourier) of great interest and importance so that this work attains a generality which makes its subject matter of basic importance for the analyst.