The reader is also briefly introduced to several topics of current interest, such as Toeplitz and subnormal operators, and commutator theory.

Several prominent features of the solutions deserve comment. First, the author displays a definite predilection for the soft, algebraic, discrete approach versus the hard, analytic, continuous one. Second, he eschews proofs which invoke a powerful but peripheral theorem, preferring the longer but more elementary approach. (For example, there is a careful avoidance of the Baire Category Theorem.) Finally, the solution to Problem 165 (If a contraction is similar to a unitary operator, must it be unitary?) is too clever by half. Mention should be made of the more pedestrian solution (modify one weight in the bilateral shift), which is at once, simple, constructive, and more useful.

In conclusion, the style of the text is breezy and both beginners and experts will find it a lot of fun to read. Both should encounter enough problems to puzzle over. As an added attraction, the preface contains the final score in the eigenvalue-proper value contest.

JOSEPH G. STAMPFLI

Plateau's problem: an invitation to varifold geometry by F. J. Almgren, Jr. Mathematics Monographs Series, Benjamin, New York, 1966. 74 pp. $7.00; paper.: $2.95.

This short book is devoted to the task of giving the reader a digestible, but yet a rather penetrating account of a new and promising approach to the old and formidable Plateau's problem. In simple terms, the problem of Plateau asks for the existence and behavior of a surface of smallest area with prescribed boundary. The precise formulation of the problem depends upon the definitions that are adopted for "surface," "area," and "boundary," and this book describes a setting in the framework of geometric analysis which gives meaning to these terms, so that a solution can be found to a very general form of the problem. The setting is similar to the one that was employed by W. H. Fleming and H. Federer in their development of the theory of integral currents. The concept of surface in this approach assumes a role similar to that played by distributions in the theory of differential equations and the definition used for "surface" stems from the notion of *generalized surface* which was created by L. C. Young some twenty-five years ago. Thus, a k-dimensional surface (or in the terminology of this book, a k-dimensional *varifold*) is a particular kind of functional defined on the space of infinitely differentiable k-forms. A smooth surface can be regarded as a varifold