

*Variationsrechnung im Grossen (Theorie von Marston Morse)*. By H. Seifert and W. Threlfall. Leipzig and Berlin, Teubner, 1938. 115 pp.

The purpose of this book is to give an expository account of Morse's theory of the calculus of variations in the large. The approach is, naturally, that of the topologist, and not the analyst. No attempt is made to present the theory in its most comprehensive form; generality is often successfully sacrificed on behalf of clearness of exposition. For example, in the critical point theory, singular cycles are used instead of Vietoris cycles, and a continuous function is used where lower semicontinuity or even less would do, while in the analysis more differentiability conditions than necessary are assumed in order to avoid analytic complications. Topologically the book is self-contained; whereas results from the calculus of variations are assumed. Things such as the "index form," which constitute a bridge between classical calculus of variations and the new developments in the large, are omitted. As a result, the book is excellent both for the calculus of variations student who wishes to learn about the modern developments in his field, and for the topologist who wishes to become acquainted with an important and fascinating application of his field to analysis without becoming involved in too many analytic details.

S. B. MYERS