The application of exponential transformations to the three fundamental variables is the subject of chapter seven. The complex variable $H = -e^{-M}$ and its linear transformations determines the stereographic projections. Similarly $\Lambda = -e^{-\alpha M}$ provides the conic projections.

In chapter eight is outlined the method of conformal displacement on the spheroid from one reference point to arbitrarily selected alternative reference points. Chapter nine surveys briefly some of the more geographical aspects of the several types of projections and mentions briefly other than conformal types. The work is concluded with a chapter providing an extensive set of auxiliary formulae and analytical relations.

This contribution represents an unusually exhaustive treatment of a fairly practical application of differential geometry and conformal transformation. The organization is good though overburdened with multiplicity of formulas. This is somewhat mitigated by a formula summary at the end of each chapter. The important characteristics of conformal maps are treated so as to provide an adequate basis for any further work. This volume and apparently the one to follow refers to the conformal projection almost exclusively. While this is of primary concern in higher geodesy it would seem appropriate in a basic treatise on cartography to give more than a cursory treatment to equal-area and the several geometrically defined projections such as the polyconic.

NEWMAN A. HALL

BRIEF MENTION

Problèmes de propagations guidées des ondes électromagnétiques. 2d ed. By L. de Broglie. Paris, Gauthier-Villars, 1951. 8+118 pp. 1100 fr.

This text is concerned with the classical phases of the theory of guided electromagnetic waves and as such does not discuss the developments made in the United States and Great Britain during the past ten years. Chapter I summarizes the basic facts regarding Maxwell's equations. They are written in Cartesian as well as orthogonal curvilinear coordinates. Complex representation of the field quantities and some of the useful potentials are discussed. Attention is turned to wave guides in Chapter II. For purposes of illustration four different cross sections are discussed: rectangular, circular, coaxial, and elliptic. The chapter closes with a brief but informative section on methods of excitation as well as transient effects. Chapter III is concerned with characteristic frequencies of electromagnetic