in doubt. Riemannian geometry, parallelism and the geometry of paths are all touched upon.

The book is provided with a subject index and an extensive bibliographical one. The latter includes (most of) the names cited, including the title and a reference to its source, and in many cases the date of birth and of death of those cited. This is a valuable list; its compilation is a difficult and often a thankless task. A real source of confusion arises in some cases in which the information is not complete, especially when the person cited was born after the middle of the nineteenth century. A special symbol to indicate that the entries were not complete in such cases would have avoided the ambiguity. Numerous slips or actual errors were noticed. Six proper names are misspelled; for homaloid the spelling homoloid is everywhere used. In the formula at bottom of page 221 for i read $i-1$. A real source of confusion arises on page 220 line 10 up. The genus defined is not the geometric genus, but the number p' in the author's notation. The discussion on the following page also refers to p'. This is what Noether called the Curvengeschlecht.

On page 208 is a footnote concerning the origin of the transformation connecting adjoints of plane curves, and hyperspace. Compare Cayley: *On the transforms of curves*, Proceedings of the London Mathematical Society, vol. 1 (1865). The formula $I+p-\sigma=12p_a+9$, in which I is the invariant of Zuethen-Segre and σ the number of exceptional curves in the system, is discussed in the footnote page 227. Compare Noether, Mathematische Annalen, vol. 8 (1875), pp. 495–528.

Professor Coolidge has put a great deal of careful thought in the preparation of this book. A number of concepts have been correctly explained, which have been sources of confusion in the minds of many, especially those interested primarily in other branches of mathematics. The book will serve a real purpose.

VIRGIL SNYDER

Festschrift Rudolph Fueter zur Vollendung seines sechzigsten Altersjahres, 30 VI. 1940. Zürich, Naturforschende Gesellschaft, 1940. 231 pp.

This volume comprises articles by Oystein Ore, Henri Lebesgue, M. Plancherel, N. Tschebotaröw, Paul Montel, W. Scherrer, L. J. Mordell, Francesco Severi, T. Carleman, E. Hecke, H. S. Vandiver, R. Wavre, H. Brandt, C. Carathéodory, Heinrich Jecklin, Eugenio G. Togliatti, Alfred Kienast, Ernst Trost, Ludwig Bieberbach, J. J.

Burckhardt, Paul Finsler, Heinz Hopf, H. Behnke and K. Stein, Elie-Cartan, Andreas Speiser, Max Gut, F. Gonseth.

W. W. FLEXNER

Les Probablitités Associées à un Système d'Événements Compatibles et Dépendants; I. *Événements en Nombre Fini Fixe.* By Maurice Fréchet. (Actualités Scientifiques et Industrielles, no. 859.) Paris, Hermann, 1940. 8+80 pp.

This is part one of a series of three, the others being: II. *Cas Particuliers et Applications*, and III. *Evénements en Nombre Très Grand ou Infini.* In this series Professor Fréchet has gathered together the hitherto scattered literature on a problem of rather general interest. The problem may be stated thus. We consider m quite general events $A_1, \cdots, A_m$ and an event H which is a function of these; that is, the occurrence or non-occurrence of H depends solely on which of the A's occur. The probability that $A_{j_1}, \cdots, A_{j_r}$ occur simultaneously is denoted by $p_{j_1 \cdots j_r}$. We wish to find the probability of H, granted that we know the values of the p's.

In Chapter I the author states and proves two interesting and powerful theorems due to Broderick. The first of these theorems asserts that the probability of H is a linear function of the p's, with coefficients depending not on the particular nature of the A's, but only on the function H. In the second theorem it is shown that if H is considered to be a function of two sets of events, then the probability of H can be obtained by a symbolic multiplication. The utility of these theorems in obtaining elegant solutions of certain classical problems will no doubt be demonstrated in the second volume of the series.

Chapter I also contains certain related formulae on moments, generating functions, and "conditional" probabilities. In Chapter II the author obtains a number of inequalities due to various writers, some in generalized form. In the remainder of the chapter questions of the following type are answered: what are the necessary and sufficient conditions that a set of 2^m numbers be the probabilities $p_{j_1 \cdots j_r}$ defined above, for some set of events $A_1, \cdots, A_m$?

The mathematics used throughout is on a quite elementary level so that the book should prove of interest to a wide circle of readers. A defect, in the reviewer's opinion, is the seemingly haphazard manner in which the various topics are arranged.

I. KAPLANSKY