

sion, the rest are in public libraries. "No two have yet been found to agree precisely in their text." The manuscripts in Erfurt, Vienna, Dublin, and Geneva have not yet been critically examined, hence it is still doubtful "what readings ought to be finally adopted for all the doubtful passages."

Of printed versions there are nine, or eleven if one includes a plagiarized work of 1562 and its English translation of 1579. The earliest printed version is the Augsburg tract of 1558, of which only eighteen copies are now known to exist, one of these being in the library of the American institute of electrical engineers in New York City.

FLORIAN CAJORI.

*Traite des Assurances de la Vie.* By U. BROGGI. Translated from Italian into French by S. LATTÈS. Paris, Hermann, 1907. xi + 306 pp.

THE appearance of Professor Broggi's book in a French translation makes it accessible in three languages, an edition in German having already appeared. This fact in itself is significant and bespeaks an examination of the volume.

If anyone has been accustomed to regard a text on the theory of life insurance as an unattractive compendium of formulas not all of which are carefully derived, to such a one the volume under review will by contrast be welcome. For the author has elected to present the subject as an integral part of mathematical theory, and has exhibited a proper concern regarding the development of the doctrine of probability which is the basis of the subject. He has also applied himself to the clear formulation of the various special problems which are treated and to the use of the mathematical processes in valid ways only. Even at this day successful undertakings of this sort are not so common as to be unworthy of praise.

An introductory statement of the problem of insurance is followed by the four chief divisions of the book; and of these the first contains a good discussion of the more interesting elementary topics of the theory of probability, including the theorems of Bernoulli and Poisson, an introduction to the method of least squares and a few formulas on interest. The second and third parts, constituting a considerable portion of the book, are devoted to the derivation of formulas for the principal forms of annuities and insurance upon groups of lives, the laws of mortality of De Moivre, Gompertz, and Makeham furnishing