

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

the basis of the discussion, and for the premiums and reserves of insurance policies. Naturally these parts are devoted mainly to matters which must be treated in all complete texts on insurance. A shorter fourth part treats the theory of risk.

Good judgment has been shown by the author both in the selection of topics and in the apportionment of space to them.

Not only will the book be of particular interest to those who desire to deal with the theory of life insurance as one phase of the mathematics of statistics, but it will prove instructing to most and valuable to all of those who deal primarily with actuarial science.

G. H. LING.

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#### CORRECTION.

PROFESSOR H. W. Kuhn has informed me that the theorem relating to the totality of the substitutions which are commutative with every substitution of a transitive group, published in my article in the present volume of the *BULLETIN*, page 19, is not new. It is found in Professor Kuhn's doctor dissertation, *American Journal of Mathematics*, volume 26 (1904), page 67.

G. A. MILLER.

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#### NOTES.

THE Annual Register of the AMERICAN MATHEMATICAL SOCIETY for 1908, containing the list of officers and members of the Society, constitution and by-laws, annual reports, and catalogue of journals in the Society's library together with other accessions for 1905-1907, has recently been issued. A complete catalogue of the library up to 1905 is contained in the Register for that year, copies of which may still be obtained from the Secretary.

THE January number (volume 9, number 2) of the *Annals of Mathematics* contains the following papers: "On the classification of plane algebraic curves possessing fourfold symmetry about a point," by R. D. CARMICHAEL; "A second inverse problem in the calculus of variations," by C. E. STROMQUIST; "The continuous plane motion of a liquid bounded by two right lines," by H. C. WOLFF; "A problem in chance," by J.