

*Analytische Geometrie der Ebene.* By PAUL CRANTZ. Leipzig, Teubner, 1915. v+93 pp.

THIS little book, labeled "Analytic Geometry," deals exclusively with the straight line and the conic sections and contains no discussion of the general second degree equation. As indicated on the title page, it is intended for self-instruction. It is arranged in a very compact manner and probably contains a maximum of material for a book of its size. The idea of a translation of axes is introduced early and is used consistently in getting the equations of the conic sections with axes parallel to the coordinate axes.

No clear-cut definition of the equation of a locus is given. In developing the equation of a locus the author simply shows that all points on the locus satisfy a certain equation, omitting the converse theorem. The methods used in getting the equation of a straight line seem very awkward and make what is really a very simple theorem appear rather complicated. In introducing each of the conic sections, a method of construction is given. This, as well as the discussion of the locus from its equation, is helpful to the self-teaching student.

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*Wahrscheinlichkeitsrechnung und ihre Anwendung auf Fehlerausgleichung, Statistik und Lebensversicherung.* Von EMANUEL CZUBER. Erster Band, dritte Auflage. Leipzig, Teubner, 1914. xii+462 pages.

THE first volume of the second edition of this work appeared in 1908. It was reviewed by H. B. Phillips in this BULLETIN, volume 20, pages 429-431. In this notice of the first volume of the third edition it will therefore be sufficient to call attention to the nature of the changes made in producing it from the corresponding volume of the second edition.

In the six years intervening between the publication of these two editions of volume I the literature of the calculus of probabilities has been enriched by the appearance of several works of importance. Of these mention may be made of the following: Borel's suggestive and illuminating "Éléments de la Théorie des Probabilités"; Liebmann's German translation of Markoff's treatise in the Russian language; a new edition of Poincaré's lectures on the theory of probability revised by the author himself; the first volume of Bachelier's "Calcul des Probabilités"; Carvallo's "Calcul des Probabilités."