treated rigorously when the student knows a little plane geometry. Neither in the First Course nor in the present work do the authors offer more than an intuitional explanation of the fact that a first degree equation defines a straight line. This plan of making merely plausible what could easily be proved rigorously is followed in the treatment of maxima and minima. One might question seriously the desirability of trying to find the maximum and minimum values of functions of higher degree than the second by means of elementary algebra. While quadratic functions can be treated rigorously by completing the square (no mention of which is made in the text), the cubics and others will usually present difficulties. When the desired information cannot be obtained accurately by the methods available, we are inclined to doubt the advisability of encouraging the student to guess at results from a picture.

In example 23, page 165, the length of time required to reduce the velocity 2 feet per second should be mentioned. The word "therefore," line 4, page 172, is not justified by the statements which precede it; the theorem in question is not proved for the general case. The word "limit" can scarcely be used with propriety on page 173 when it is not defined until page 176. The expression "about to stop" in example 17, page 173, is too inexact to merit serious criticism. The authors are to be commended for the emphasis placed on the exponential nature of logarithms. The chapter is arranged so as to teach the student to handle logarithmic and exponential equations with equal readiness and to change from one to the other with ease and certainty. The treatment of complex numbers is careful and instructive. That quite erroneous results may be obtained by careless multiplication and division of imaginaries is emphasized and a number of excellent illustrations are given.

J. V. McKELVEY.

Le Calcul mécanique. Par L. JACOB. Paris, Doin et Fils, 1911. xvi+412 pp. with 184 figures in the text. 5 fr.

THIS concise presentation of mechanical calculators is the more valuable and interesting to the reader because of the author's style and systematic treatment. The scientific classification follows that adopted in the conferences in 1893 at the Conservatoire des Arts et Métiers held by M. d'Ocagne