remained in use as late as the seventeenth century. Von Braunmühl traces the beginning of the graphic treatment of spherical triangles back to Anaximander, but suspects that these graphic processes are much older, that they were known to the Egyptian and possibly also to the Chaldean astronomers.

The graphic method of solving spherical triangles is the oldest trigonometric *method* known to us. Ptolemaeus gives graphic processes in which *sine* is used, but curiously enough, in all trigonometric computation he employs instead *the chord of double the arc*. This anomaly finds its explanation in the fact that the Greeks treated the graphic solutions and the numerical solutions apart from each other; it remained for the Hindus and Arabs to unite the two methods and to recognize the advantage, in all cases, of using half the chord in place of the whole chord.

We have noticed no errors of importance. On page 88 the date of Alcuin's birth is given as 736. The same date occurs in Felix Müller's *Zeittafeln*, but the correct date is uncertain; it is probably 735. Snellius's baptismal name is spelled on page 70 *Willebrod*, in other places it is given correctly as *Willebrord*.   FLORIAN CAJORI.

Histoire des Mathématiques. Par JACQUES BOYER. Illustrée de fac-similés de manuscrits et de portraits. Georges Carré et C. Naud, Éditeurs. Paris, 1900. 250 pp.

ON opening this book the reader is attracted by several facsimile reproductions from old mathematical books or documents and by a number of portraits of mathematicians. Thus he has before him a facsimile of part of the Egyptian Akhmim papyrus, of the title page of the Acta Eruditorum, of a page of Euclid's Elements, from a manuscript preserved in the Bibliothèque Nationale of Paris. There are nineteen portraits of mathematicians. The list comprises eleven Frenchmen, three Englishmen, two Germans, two Russians, and one Swiss. Two likenesses are of women, namely, of Mme. Du Chatelet and Mme. Kovalevski.

To write a general history of mathematics and confine it, as M. Boyer does, to the small compass of 247 pages is no easy task. Anything like completeness cannot be looked for. Perhaps all one can expect is that the information offered be accurate, that the broad movements in mathematical thought be brought before the reader and that the narrative be made attractive so as to invite more thorough study in larger treatises. In this last respect we think that