

## SHORTER NOTICES

*A Manual of Greek Mathematics.* By Sir Thomas L. Heath. Oxford, Clarendon Press, 1931. xvi+552 pp. Price \$5.00.

When Sir Thomas Heath's *History of Greek Mathematics* was published in 1921, it was evident that these two volumes not only summarized the author's studies of special writers but that they filled the gaps necessarily left between these works. At first sight, the purpose of the *Manual of Greek Mathematics* is not so clear, and one is tempted to suppose that it is merely a condensed version of the other work. This, however, is not the case, for there are important differences in purpose and in method of presentation.

The *History* was intended for classical scholars "who might look for light on the interpretation of passages of mathematical content in Greek authors" and for the expert mathematician who might wish to master the method of particular individuals with a view of applying it to other problems. The *Manual* was written for "the general reader who has not lost interest in the studies of his youth." One suspects that the "general reader" in America has little curiosity about the contributions of the Greeks to mathematics. He has studied "geometry" rather than "Euclid" and he presumably has had less classical training than has his fellow in England. Accordingly, this *Manual* is likely to find its readers,—and there should be many of them,—among those students and teachers whose interest in mathematics prompts them to learn more about its development.

Like the *History of Greek Mathematics*, the material in the *Manual* is arranged mainly according to the subject matter, a scheme that shows the greatest of the Greek mathematicians against the background of the earlier development of their respective fields. This similarity in arrangement results in some cases in identity of chapter headings and at times in the repetition of key sentences, but while certain minutiae present in the first are omitted in the second, other matters are given greater explanation. For example, in discussing Pythagorean arithmetic, the author says in the *History* (I, p. 90), "This subject (the irrational) was regarded by the Greeks as belonging to geometry rather than to arithmetic." In the *Manual*, the corresponding section (p. 54) states that "The subject of irrationals in general was for the Greeks a part of geometry rather than arithmetic, and necessarily so, because, for want of notation, an irrational of any sort could only be denoted by a straight line or a combination of lines." Other instances of this kind are to be found in great numbers, each one clarifying a particular point which the readers for whom the *History* was designed were expected to supply for themselves. The volume is thus well adapted to the needs of the beginning student in the history of mathematics, but it will be useful also for the more advanced worker.

In addition, just as the *History* presented materials not at hand when the earlier studies appeared, so the *Manual* contains the results of recent researches especially in the fields of Babylonian and Egyptian mathematics which are treated in the earlier chapters.

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