

*Histoire des Sciences Mathématiques dans l'Antiquité Hellénique.* By Gino Loria. Paris, Gauthier-Villars, 1929. iv+215 pp. Price 30 fr.

This brief survey of the mathematical achievements of the ancient Greeks is one of the series *Science et Civilization* edited by M. Maurice Solovine, who is also the editor of the equally important series *Les Maîtres de la Pensée Scientifique*, a collection of original sources. Both he and the publishers deserve the thanks of scientists and the general reading public for having placed this material in a form that can be procured at a moderate price. Our organizations for the advancement of adult education would do well to consider such means to aid their efforts.

In the present work Professor Loria, whose important treatises on the history of mathematics are well known, has condensed into about two hundred pages the story of Greek mathematics from the time of Thales to that of Heron of Alexandria. He has very properly prefaced this story by a chapter on the "cradles of mathematical thought," namely, on the work of the Assyro-Babylonians and the Egyptians. His subsequent chapters relate to (Chap. II) the origin and first phase of development of Greek mathematics, (III) the golden age of Greek geometry, (IV) the contemporaries and immediate followers of the great mathematicians of Greece, (V) Greek arithmetic (theory of numbers), (VI) Greek astronomy, and (VII) the Greek spirit in modern mathematics.

Naturally such a wide field can only be covered in so few pages by placing the emphasis upon the leading features. In this Professor Loria shows once more that he not only writes with a facile pen but selects his material with enviable discernment. He shows his familiarity with some of the recent discoveries of archaeology and takes the sensible view that the interchange of ideas between peoples is not a monopoly of modern transport but has always been a force for the spread of knowledge. He calls attention to such racial peculiarities as the use of very large numbers in Babylon and the general repugnance to this use in the Greek schools; to the knowledge which the Babylonians had of the relations of the sides of a right triangle and the absence of geometric proof of any such statements, but fails to mention the recent discoveries respecting the angle in a semi-circle or the rule for the quadratic; and in general he selects the characteristic features with respect to each country and era. His statements concerning the Rhind Papyrus need revision on account of the recent appearance of the editions of Professor Peet and Dr. Chace. While he mentions the Moscow Papyrus, he naturally could not speak of it with any authority since it is yet to be made known in any complete way.

Readers will be interested in the assertion that Pythagoras more than any other man deserves the title of the "fondateur de la glorieuse famille des mathématiciens"; that the tradition of his proof of the right-triangle relation is probably founded on fact; and that this proof was substantially the one which we now state in algebraic form. Such items, historical or conjectured, characterize the passages devoted to all the leading Greek mathematicians, thus giving a popular presentation of their work.

The chapter that will attract the reader of elementary mathematics most is the one referring to the influence of Greek methods on modern theories.