The classical discussions of cubic curves in such texts as Salmon, Clebsch-Lindemann, Durege, and Schroeter, were excellent in their time, but have now become somewhat antiquated. In none of them do we find so wise a selection of material nor so balanced an emphasis on the various topics, as in this brief yet comprehensive and readable text.

C. H. SISAM

REYMOND'S HISTORY OF SCIENCE

Histoire des Sciences Exactes et Naturelles dans l'Antiquité Gréco-Romaine, by Arnold Reymond. Paris, Librairie Scientifique Albert Blanchard, 1924. vii+238 pp.

The Preface of this book is from the pen of Léon Brunschvicg, and is followed by an Introduction giving an outline of Babylonian and Egyptian science. The first three chapters are an historical survey of Greek and Roman science. The last six chapters deal with principles and methods in mathematics, astronomy, mechanics, chemistry, natural history, and medicine, as developed in Greece and Rome. In various places, there is pointed out to the reader the connection of ancient conceptions in science with those of later periods.

The work under review is not an independent research based upon the study of original sources, but a compilation from European publicatons. Of assistance to the studious reader are the six pages given to bibliography. Our assurance that all important publications are included in the list is shaken somewhat by the omission of all reference to G. Eneström and his BIBLIOTHECA MATHEMATICA. In the case of the Moscow papyrus, the author overlooked the all-important early Egyptian computation of the volume of the frustrum of a quadrangular pyramid.* Except for a reference to an article of J. H. Breasted that was published in Europe, American scholarship is ignored completely. For a general view point of Babylonian and Egyptian mathematics, a reference to L. C. Karpinski† would have been of value. R. C. Archibald's reconstruction of Euclid's *Divisions of Figures*‡ escaped the attention of the author, as did also D. E. Smith's choice article§ on Greek computation. American publications would have afforded the author a profounder realization of the importance in the history of the theory of limits of Greek discussion of "Indivisibles" and of Zeno's arguments on motion.‖ Of interest would have been the British defence of Aristotle's treatment of falling bodies, to the effect that Aristotle dealt with terminal velocities of a body falling through a resisting medium,¶ and a

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* ANCIENT EGYPT, vol. 17, p. 100.

† AMERICAN MATHEMATICAL MONTHLY, vol. 24 (1917), pp. 257–265.

‡ R. C. Archibald, *Euclid's Book on Divisions of Figures*, 1915.

§ D. E. Smith, BIBLIOTHECA MATHEMATICA, (3), vol. 9 (1908–09), pp. 193–195.

‖ F. Cajori, AMERICAN MATHEMATICAL MONTHLY, vol. 22 (1915), pp. 1, 39, 77, 109, 143, 179, 215, 253, 292.

¶ NATURE, vol. 92 (1914), pp. 584, 585, 606.

critique of that defence.* The book under review assists in the perpetuation of the legend, based upon incorrect evidence, that Sir Isaac Newton's delay of twenty years in the announcement of his law of universal gravitation was due to measurements of the size of the earth far below the true value, and that only Picard's determination finally enabled Newton to verify his law. There is very strong evidence in support of the view that Newton's difficulties were of a wholly different character and related to the unsolved problem of the attraction of a spheroid upon an external particle.† In presenting ancient conceptions on the atomic theory and on infinity, C. J. Keyser's article on Lucretius would have afforded illuminating information.‡ Lucretius deserves attention also in the presentation of ancient conceptions of heat.§ But strange to say, Reymond makes only a passing reference to him. In presenting the place of Pliny in the history of science, a reference to the monumental work of Lynn Thorndike|| would have been very much to the point. It is a bit strange that in discussing the ancient abacus and the lunes of Hippocrates of Chios, Ball's *Short History of Mathematics* should be the only authority cited.

The author's style of exposition is clear. Readers will find the book entertaining and, in general, quite accurate.

FLORIAN CAJORI

THE ARITHMETIC OF NICOMACHUS

Nicomachus of Gerasa, *Introduction to Arithmetic*. Translated by Martin Luther D'Ooge, with studies in Greek Arithmetic by Frank Egleston Robbins and Louis Charles Karpinski. New York, Macmillan, 1926. x+318 pp. Price $3.50.

This important work appears as volume XVI of the Humanistic Series of the University of Michigan Studies, a series that is doing much to establish and maintain a high standard of scholarship in this country. The translation was made by the late Professor D'Ooge, whose death eleven years ago was the occasion of a great loss not merely to his university but to the cause of classical scholarship everywhere. It had been completed at the time of his death, but the "supporting studies," as the editors call them, were undertaken later by Professors Robbins and Karpinski. Professor Robbins contributed chapters on the development of Greek arithmetic before Nicomachus; on the latter's life, works, and philosophy; on his philosophy of number, his translators and commentators; on the manuscripts and texts of his works; and on his language and style. Professor Karpinski's contributions consist of chapters on the sources of Greek

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* SCHOOL SCIENCE AND MATHEMATICS, vol. 21 (1921), p. 638 ff.

† W. W. R. Ball, *An Essay on Newton's Principia*, 1893, p. 7; see also the ARCHIVIO DI STORIA DELLA SCIENZA, vol. 3 (1922), pp. 201–204.

‡ C. J. Keyser, this BULLETIN, vol. 24 (1918), p. 321.

§ ISIS, vol. 4 (1922), p. 483–492.

|| *History of Magic and Experimental Science*, vol. 1 (1923), pp. 42–99.