Greek Mathematical Philosophy. By Edward A. Maziarz and Thomas Greenwood. Frederick Ungar Publishing Co., N.Y. (1968). xiii+271 pp.

While from time to time in the history of mathematics the ties between mathematics and philosophy which often go unnoticed have made themselves felt more strongly than usual, it was particularly in the period where Greek thought began to florish for the first time that these connections were of fundamental importance. In fact, the separation of philosophy, mathematics, the sciences etc. into separate disciplines represents already a rather late stage of development. Yet looking back we tend to write—perhaps we should better say: to construct—isolated histories of philosophy, of mathematics, of science and so on, selecting only the facts we consider important in the history of the single discipline in which we happen to be most interested.

The authors' aim was to give "a broad cultural view of the mutual interrelation and development of mathematics with philosophy in Greek Thought". At a time where the study of the history and philosophy of science is being established at an increasing number of universities this book should be very seasonable. It offers an elementary, very clearly written account of the interwoven history of the early mathematics and philosophy, beginning with Thales and the Pythagoreans (Part I), the time of Plato (Part II), that of Aristotle (Part III), and it ends with a disussion of the Euclidean synthesis (Part IV). In these latter parts the influence of Platonic and Aristotelean thinking on the development of mathematics and the sciences since the Middle Ages is considered, too. While conflicting issues between the specialists on Greek thought are not always passed over in silence, emphasis was obviously placed on a presentation that is not overburdened with technicalities. The book is equipped with a selected bibliography (references to the source material being given in footnotes) and an index. It should prove of special value in connection with courses and seminars on the history of Greek mathematics and philosophy.

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A History of Vector Analysis. The Evolution of the Idea of a Vectorial System. By Michael J. Crowe. Univ. of Notre Dame Press, Notre Dame, London (1967). xii+270 pp.

This book is a welcome addition to studies on special branches of mathematical development during the 19th century. The subtitle perhaps describes even better than the title what it is about: it traces the evolution (understood in a broad sense) of the ideas that led to the modern vector system. This evolution, if viewed as such, occurred by way of thesis, antithesis (of little influence) and—after a transitional period—final synthesis. These steps are represented by Hamilton's quaternions, by Grassmann's theory of extension (Ausdehnungslehre), and—after a turn towards physical application in the transitional period of Tait, B. Peirce, Maxwell and Clifford—by the work of Gibbs and Heaviside. The contributions of all those men, and a number of less important figures, too, are discussed in detail. They are placed into the line of conceptual development of the idea, but at the same time the story is connected with the life and scientific work of each contributor.

Such a mode of presentation easily can lead to an undigestable book. Yet not in the present case: the author's main intentions and conclusions are summarized at the beginning and end of each chapter. A chronological table and some graphs on the number of relevant publications serve to illustrate the development. Well chosen quotations brighten the broad, in general nonmathematical exposition which is amply documented by notes (collected at the end of each chapter). A reader interested mainly in the results of this study should turn immediately to Chapter Eight. As the book, which is equipped with a very detailed index, concentrates on the development of the basic ideas and conceptions connected with a vectorial system, there is still room for another one tracing the history of the analytical side of vector analysis, i.e. in particular the interrelations between the development of mathematical physics and the formalistic side of the vector (and tensor) system.

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The Evolution of Mathematical Concepts. An Elementary Study. BY RAYMOND L. WILDER. John Wiley and Sons, New York, London, Sydney, Toronto (1968). xx + 224 pp.

Being disappointed by a book that at first raised one's expectations is a saddening experience. As a reviewer, in such a case one finds oneself guilty of somehow having missed the author's intentions. But what about the case when the author gives to his book the sub-title "An Elementary Study", and the reviewer's main objection to the treatment is just that it is too elementary?

Professor Wilder's is an unusual book, a stimulating book. His intention is to investigate the evolution of mathematics from the viewpoint of an anthropologist. Mathematics is considered, and rightly so, as an element of culture. Since mathematics is so highly technical, an investigation into the mathematical subculture from the standpoint of an anthropologist can only be made by someone profoundly familiar with mathematics and its history, by a mathematician so well qualified as Professor Wilder. I have nothing to quarrel concerning his presentation of the history of number from the inception of counting up to and including trans-