

and sometimes even without explicit statement". The vector algebra goes as far as the vector and scalar triple products and the geometrical applications include derivations of several trigonometric identities.

The exposition is very clear, great care being taken to resolve every possible source of misunderstanding, and the book is therefore well suited to individual study. There is a liberal supply of exercises with their solutions. There are few prerequisites other than the algebra of real numbers, and the book may be very appropriate for use in the final years of High School mathematics and as an additional text for freshman courses, where the subject matter of this book is usually notable by its cursory treatment.

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The Algebra of Abū Kāmil (Kitāb fī al-jābr wa'l-muqābala) in a Commentary by Mordecai Finzi. Hebrew text, translation, and commentary with special reference to the Arabic text, by Martin Levey. The University of Wisconsin Press: Madison, Milwaukee, and London, 1966. xiii + 226 pages. \$10.00.

Abū Kāmil's book on algebra is the first Arabic work on algebra following al-Khwārizmī's well-known text (ca.830). As his forerunner, abū Kāmil (850? - 930?) discusses the theory of equations of the first and second degree, and in a way his "Algebra" is a commentary on and elaboration of that of al-Khwārizmī. While the latter had discussed 40 problems, abū Kāmil increased the number to 69 taking over many from al-Khwārizmī and adding further solutions to those contained in the earlier work. More important is the improvement which results from abū Kāmil's attempt to combine the practical Babylonian viewpoint with the theoretical attitude of the Greeks. In this connection one should expect to find a comment on the claims put forward by Aydın Sayili in his edition "Logical necessities in mixed equations, by 'Abd al Hamīd ibn Turk and the algebra of his time" (Ankara, 1962) who argues that the "Algebra" of al-Khwārizmī was a shortened version of that of ibn Turk. But ibn Turk who hence may have preceded al-Khwārizmī isn't even mentioned.

The present volume contains side by side with the English translation the Hebrew text of the commentary on abū Kāmil's book by Mordecai Finzi (written in the 15th century) rather than the original Arabic. A copy of this is also extant but is much inferior to the Hebrew version. There is an introduction of 25 pages, footnotes, a Hebrew-English glossary of mathematical terms, an index and last but not least, a concordancy of the problems which Leonardo Fibonacci of Pisa borrowed from abū Kāmil for his "Liber abbaci", (1202).

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