BOOK REVIEWS

ARABIC-ISLAMIC EXACT SCIENCES


In the history of science, the Arabic-Islamic period has always played, from the beginning, an especially prominent role. It was not just one civilization by itself; indeed, it rather was, for a period of time, quite closely related to the 'western' civilization, both to its ancient branch (the Arabic-Islamic world collected and studied a great number of scientific works of the classical Antiquity) and to its medieval renaissance (from late tenth to the middle of the thirteenth centuries innumerable writings on different scientific topics were translated from the Arabic into Latin or some old vernaculars thus passing on Arabic-Islamic knowledge, which often included classical Greek elements, to the Europeans, stimulating western interest in scientific studies and thereby giving rise to the development of modern western science). This strong impact of the Arabic-Islamic sciences on the European civilization was soon recognized by western historians, and the topic of 'Arabic-Islamic influence' gained power in the history of the sciences. On the other hand, it must be admitted that the fame of the 'Arabic-Islamic influence' helped obscure our view of the Arabic-Islamic science as a whole. For a long time it was not sufficiently recognized that Arabic-Islamic science comprised a great deal more than what was generally known to the West through those medieval translations; or, in other words, those translations revealed but a very small and restricted selection from the total of Arabic-Islamic science. While in a first period of research into the history of Arabic-Islamic science those translations, as well as biographical and bibliographical surveys, stood in the centre of the interest, historians in a more recent period started work on the heritage itself that the Arabic-Islamic world has left behind, covering all historical periods, all the different regions of the vast Islamic empire, and all the different languages involved (including, in addition to Arabic, the Persian, Hebrew, Turkish languages, Indian idioms, etc.). An outstanding representative of this 'active' generation of researchers is E. S. Kennedy in whose honour the volume under review has been compiled.

It is a collection of 69 papers on matters of Arabic-Islamic astronomy, astrology, and mathematics, 34 of these authored by E. S. Kennedy alone, 18 written by Kennedy together with one or another of his students, and 17 from the pens of several of his students alone. The papers cover the years from 1947 to 1978. (All the papers in the present volume are photographically re-printed from their original sources, and at the end of the book there were added useful indexes, of proper names and subjects, of decimal and sexagesimal parameters, and of manuscripts cited, that greatly facilitate the practical use of this valuable book.) The papers presented here are but a selection from Kennedy's work which — apart from several other articles — comprised also a series of books, or lengthy
contributions to collective works, which for the benefit of the readers are
enumerated on p. xv.

A glance over the titles of the different papers (and also the book titles on p. xv)
conveys an overwhelming impression of the wide range of Kennedy's scientific
and historical interests and his unique ability in mastering the study and
interpretation of topics from the Arabic-Islamic sciences of several centuries.
Included in his interests are such early authors as al-Khwarizmi, Yahya ibn Abi
Mansur, Ya'qub ibn Tariq, Abu l-Wafa', and Thabit ibn Qurra (8th/9th cent.
A.D.) as well as outstanding names from later periods such as Ibn al-Shatir (14th
cent. A.D.) or al-Kashi (15th cent. A.D.), not to speak of the famous al-Biruni (11th
cent. A.D.) whose works came too late to be included in the corpus of Latin
translations in Spain of the twelfth century and whom, therefore, the historians
had to recover from his original works, in Arabic and Persian. Historically
equally relevant are Professor Kennedy's studies of pre-Islamic sources, such as
the "Sasanian Handbook Zij-i Shah", some details of which can be reconstructed
from traces found in early Islamic texts, or even relics of Babylonian
mathematical methods.

Professor Kennedy's work comprises the detailed analysis of single topics as
well as synthesis and general surveys. He is a mathematician by profession, and he
has spent the major part of his life in the Middle East, in Iran and in Lebanon,
which has made him a connoisseur of Islamic customs, traditions and languages.
So he was best qualified to enter upon a subject like the history of the exact
sciences in the Arabic-Islamic world, which requires from its adepts both the
thorough knowledge of the subjects and the complete command of the languages
involved. Contrary to much that was written in the earlier period of this historical
discipline – which to a great extent consisted of mere collections of biobiblical data, names, titles of books etc. and which derived its knowledge
largely from such secondary sources – all of Professor Kennedy's writings are
based on the direct study of the original sources in Arabic and Persian. This is a
point which must be stressed here emphatically. Whether it is on planetary theory,
computation of tables, visibility of planets or the Moon, parallax theory, eclipses,
timekeeping (an Islamic speciality), astronomical instruments, mathematical
methods applied in the solution of problems in theoretical astronomy and in
astrology or in pure mathematics, mathematical geography, calendric matters,
etc., the reader finds all these displayed and analysed from the respective original
sources.

Another aspect of Professor Kennedy's successful life as a researcher and an
academical teacher can be collected from the contents of the present volume: a
good portion of the articles assembled in it were either co-authored, or singly
authored, by several of his students. This would suffice to show that Professor
Kennedy has happily succeeded in implanting in the minds of generations of his
students an idea of the importance and the seriousness of these historical studies,
and that he accepted them and worked with them in a sort of learned partnership.
Several of them, in the meantime, became professors themselves. In sum, the
present volume is a remarkable source of first-hand information on detailed
problems in Arabic-Islamic mathematical and astronomical sciences, and a
monument of lifelong devoted scholarship. May Professor Kennedy be granted
many more years in circumstances that allow him to continue his highly esteemed