STUDIES IN THE HISTORY OF THE EXACT SCIENCES
IN HONOUR OF DAVID PINGREE

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STUDIES IN THE HISTORY OF THE EXACT SCIENCES IN HONOUR OF DAVID PINGREE

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Preface

This collection of essays is an expression of respect and gratitude from a group of scholars who have worked closely with David Pingree, either as doctoral students or as colleagues, in the Department of the History of Mathematics at Brown University and elsewhere. A much larger number of scholars could have been invited to participate if we had included all those who have benefited from his written work and his generously given advice. The geographical spread of the contributors shows how the influence of his scholarship has taken root not only in North America, but also in Europe, India and Japan. The breadth of the subject matter indicates how wide David's own expertise extends: from ancient Mesopotamia, through Greece, India and Persia, into the Islamic and medieval European worlds. The emphasis at the Department of the History of Mathematics, ever since Otto Neugebauer was invited to Brown in 1939, has been on the interpretation of pre-modern mathematical texts (in the widest sense), and David has followed this admirable tradition in editing texts in Akkadian, Arabic, Greek, Latin, Persian and Sanskrit. Thus, most of the articles here are also concerned with texts, and several of them include editions. David has always believed that pre-modern astronomy and astrology form a single science of the stars; the theoretical paradigms for the movements of the Sun, Moon and planets generate the astronomical tables which are used for making astrological predictions for everyday personal matters and for affairs of the nation. The articles on astrology in this collection all deal with texts that describe or imply some mathematical basis for their calculations.

Those who have worked with David in Wilbour Hall in the shadow of the University Library will remember how he would turn up every morning with his dog—for many years a gentle but intellectually challenged black mongrel called Junior—whom Neugebauer would reward with a titbit. Gerald Toomer would

be working in the basement with his two corgis; Abe Sachs was quietly unravelling the secrets of his cuneiform tablets in a neighbouring office. Throughout the day one would read with him a text in one of David's many languages, pulling books off the shelves which contained the most comprehensive collection of works on the history of mathematics that has ever been assembled in one place. Besides the books one might plunge one's hand into a sea of microfilms of manuscripts, or consult one of the many immaculate transcriptions of unpublished texts that David made, or his card-file of datable horoscopes. Only rarely did one have to go to the Department's big brother next door to supplement the resources of the unique library. Shortly before mid-day (incredibly early for most Europeans) one would accompany David and Neugebauer to the university cafeteria where one would pile a mixture of salads and sauces into one bowl and wash it down with juice or beer. The afternoon stint would continue until five or six o'clock, when David walked back home with his dog. But one knew that more work waited there for him: perhaps an edition of a Sanskrit text, or a set of astronomical tables.

The scholars associated with the Department of the History of Mathematics referred to one another by various nicknames. The founder, Neugebauer, was 'the Elephant'. His colleague Ted Kennedy, the expert on Arabic mathematics, naturally acquired the name of the ninth-century Arabic philosopher and scientist, al-Kindī. Gerald Toomer's Oxford origin earned him the title *Homo oxoniensis* ('Home-Ox' for short). Abe Sachs was 'the Owl', whose office walls were adorned with numerous postcards and other pictures of his namesake. Pingree's nickname, 'Abū Kayd', was inspired by the similarity of his family name to that of Alexandre Pingré, the great eighteenth-century authority on comets (*Cométographie*, 2 vols, Paris, 1783–4). The Arabic 'kayd' in the sense of 'comet' is derived from the Sanskrit 'ketu', which originally meant 'brightness, rays of light', but came to be applied both to a comet (called the 'tailed star' in Arabic and medieval Latin) and the descending lunar node, which was regarded as being the tail of a dragon. The idea of brightness and of swishing tails persists in another meaning of 'ketu', denoting 'ensign' or 'banner'; moreover, the word also means an 'eminent person'. So we are happy to honour David not only in his own name, but also

as Abū Kayd, 'the father (or epitome) of the eminent scholar', for whom the banners can be unfurled.

In addition to the twenty-nine articles edited here, we have attempted to put together a complete bibliography of David's publications until the end of July 2003. We fear that we have not entirely succeeded: he has been so prolific, and published in such a wide range of journals, that we may have inadvertently left out a few of his articles, let alone several judicious reviews of other people's books. Nonetheless, we hope that the *curriculum operis* presented here will serve as a boon to all scholars who rely on David's work, as well as a testimony to his vast contributions.

Acknowledgements

We are deeply indebted to the current and recent doctoral students in the Brown History of Mathematics Department who generously added to their heavy workloads the task of helping prepare this tribute to their teacher. Setsuro Ikeyama, Toke Knudsen, and Micah Ross compiled and arranged most of the Pingree bibliography, and Clemency Williams helped edit the papers in the Assyriology section. Additionally, a graduate student at the University of Utrecht, Sybren Botma, indexed the volume. Two colleagues, Taro Mimura of Tokyo and David Juste of the Warburg Institute, were equally generous with their time and effort. Finally, we owe much to the skilful editorial support of Trudy Kamperveen at Brill. The able assistance of each of them is greatly appreciated.