

**Charles Burnett (ed.), *Adelard of Bath: An English Scientist and Arabist of the Early Twelfth Century*. London (Warburg Institute) 1987, 208 pp., £ 12. ISBN 0 85481 070 6 (Warburg Institute Surveys and Texts, 14).**

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This volume, pleasant in style and workmanship as well as contents, grew out of a colloquium held at the Warburg Institute in 1984 and aiming at coverage of "as many facets of Adelard's activity" as possible. Apart from enriched versions of the papers presented at the colloquium, the volume contains chapters on subjects not covered at that occasion, together with a catalogue of the writings of Adelard and his closest associates and a description of the manuscripts in which they occur.

First comes an "Introduction" by the editor, describing the status of Adelard scholarship, and a bio-bibliographic article by Margaret Gibson, presenting *inter alia* what can plausibly be stated concerning his family origins—Continental, perhaps Lotharingian, arriving to England with the conquest; his own social status—a "gentleman scholar"; the dependency of his early works, *De eodem et diverso* as well as *Quaestiones naturales*, on the renewed Latin and Salernitan/Greek learning of the early twelfth century and not on real Arabic science; and his pivotal activity as a translator and expositor introducing the *Elements* and such tables which were needed in sophisticated astrology. Other articles confirm the picture of a scholar whose naturalism and astrology tended more toward magic than toward medicine.

The remaining contributions can be classified in two main categories: Those dealing with specific Adelardian, quasi-Adelardian or pseudo-Adelardian works, and those exploring the wider contexts of Adelard. The latter category comprises three items: Firstly, a short article by André Allard on the (intricate) paleography of Arabic numerals in Latin arithmetical manuscripts—leading to the conclusion that the reception process has been a complex one. Secondly, Richard Lorch compares the Arabic *Elements* in Hajjāj and Ishāq/Thābit-versions with the Arabo-Latin translations usually known as "Adelard I" and "II", "Hermann of Carinthia" and "Gerard of Cremona", showing that "Adelard I" is a translation of one mixed H/I-Th text ("M1"), while "Gerard" is a reworking (due to an unknown hand) of a literal translation made by Gerard from a different mixed text ("M2"). "Hermann" and "Adelard II" are either very free translations of "Hajjāj" or translations of Arabic compendia based on Hajjāj—or, as far as "Adelard II" is concerned, on a mixed version of type "M1". "Adelard I", "Adelard II" and "Hermann" as we know them are mutually contaminated. Thirdly and finally, Raymond Mercier analyses extensively the astronomical tables accessible in the Islamic and Christian West in the twelfth century, with special emphasis on al-Khwārizmī's *zij* as revised by al-Majrītī (the tables translated by Adelard) but discussing also among others the tables of Abraham Bar Hiyya (Savasorda) and al-Battānī and the Toledan tables together with a number of Latin descendants.

Of the remaining articles, some analyze well-established Adelardian works. Alison

Drew presents *De eodem et diverso* as a representative of the didactic current of early twelfth century northern France albeit "intended to encourage the study of the arts, but [...] not designed as a work of reference" (Charles Burnett, on p. 73, sharpens this point considerably, to the effect that the purpose of the work is "to entertain as much as to edify"). The most modern aspects are the descriptions of grammar, which is interpreted as semantics, and an interest in astronomy introduced as providing knowledge of the past and the future; most traditional, and in striking contrast to developments in which Adelard was soon to involve himself, are the presentations of geometry as *purely practical*, in the vein of the agrimensorial and pseudo-Boethian geometries, and of arithmetic as *purely theoretical* (Boethian).

Menso Folkerts' article on the "Adelard"-versions of the *Elements* continues Richard Lorch's discussion, confirming his conclusions, and argues that "Adelard II" is to all evidence the only version due to Adelard; the evidence involves detailed analysis of the texts and comparison with the Boethius tradition and with the *Liber ysagogarum Alchorismi*.

Emmanuel Poulle, in the last major article of this type, analyses Adelard's treatise on the astrolabe, which turns out to be quite original in several respects (though not always advantageously). Of the three traditional themes dealt with in such treatises, e.g., the theory of the stereographic projection and the construction of the instrument are omitted, leaving only directions for use and morsels of implicit description. But exceptionally, a preface describes the cosmology presupposed. As to the uses of the instrument, Adelard is seen to be particularly interested in those which serve astrological purposes; one application, the determination of geographical longitude, reveals the limited character of Adelard's astronomical competence, since he believes that solar and lunar eclipses serve the purpose equally well.

Two brief articles, by Dafydd Evans and Gillian R. Evans, respectively, describe the style and fate of Adelard's treatise on falconry and the contents of his *Regule abaci*, both of them juvenile works and stylistically and otherwise related to the *Quaestiones naturales* and *De eodem et diverso*.

A final group of articles gives information on material of doubtful provenience. Charles Burnett and Louise Cochrane investigate the reasons which have led to the ascription of one version of the *Mappae clavicula* to Adelard and dismiss them as at best inconclusive. In an article on "Adelard, Music, and the Quadrivium", Charles Burnett, in the likeness of Adelard a skilled musician as well as a scholar, elucidates the passages in *De eodem et diverso* and *Quaestiones naturales* concerned with music and acoustical theory by means of a hitherto unnoticed collection of glosses in a mid-twelfth century manuscript of Boethius' *De musica*, of which several refer to Adelard's opinions and one appears to be due to the master himself. The same manuscript (Oxford, Trinity College, 47, apparently intended as a library copy) contains the earliest manuscripts of the "Adelard I" and "Adelard II" *Elements*, which leads Burnett to suggest an association "with Adelard's circle", and to the conjecture that it might have been written

under Adelard's supervision (p. 84).

In yet another article, Burnett deals with Adelard's astrological translations: part of the pseudo-Ptolemean *Centiloquium*, Abū Ma'šār's *Isagoge minor*, and a work on casting talismans by pseudo-Thābit (all crudely translated in a way which suggests a still untrained translator). In the same context, a curious treatise *Ut testatur Ergaphalau* is investigated (with critical edition). It has been written directly in Latin though inspired by Jewish sources, is connected to the very first (tenth to eleventh century) wave of Medieval Latin astrological interest, and contains a highly interesting division of the sciences aimed at accommodating astrology. This work, perhaps to be dated to the late tenth century, goes in manuscripts with the Adelardian treatises, and Burnett proposes that Adelard's astrological translations (which have no known preface of their own) may have been prepared for a collection to which the old text served as general preface.

The final article, too, deals with astrology, viz. with a collection containing autographs of 10 of the 15 known twelfth century horoscopes. All seem to be connected to the fate of the English Throne between 1123 and 1160. The first 9, probably cast in 1151, are all in the same hand, and everything points to Adelard as their author. As did the treatise on the astrolabe, they suggest fair but certainly not perfect understanding of the matter: apart from minor errors (like placing the Moon in two houses at a time) they commit the fundamental blunder of using tables of the "houses" valid at the latitude of Cordoba (corresponding to the al-Khwārizmī/al-Majritī-tables translated by Adelard).

The final chapter thus completes the picture of a gentleman-scholar turning scholar yet active within the courtly orbit, starting off from the new level of early twelfth-century Latin *artes* but increasingly drawn to the astrologico-magical variety of naturalism.

In all respects a fine tribute to Marie-Thérèse d'Alverny, to whom the book is dedicated.

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