CHAPTER EIGHT

The Use of the Stars: Alchemy, Plants, and Medicine

Giles E. M. Gasper, Nicola Polloni, Sigbjørn Olsen Sønnesyn, Anne Lawrence-Mathers, and Nader El-Bizri

The final sections (§§11–13) of *On the Liberal Arts* move to the uses of astronomy in natural philosophy with three specific examples: the planting of plants, the transmutation of metals, and medical interventions. Grosseteste's conceptual framework for astronomy emerges from a variety of sources, mediating different models of the cosmos and its operations and components. The emphasis on the quadrivial arts and their application within the disciplines of natural philosophy marks his text out as significantly different from previous medieval treatises on the liberal arts, and the focus on astronomy as the culmination of the applicability of the arts is rarer still (see Ch. 2 §§2–3). The stress laid on astronomy at the culmination of the treatise offers particular insight into the broader worldview that frames Grosseteste's conception of the liberal arts.

Astronomy, for ancient and medieval thinkers, incorporates astrology, the two regarded 'as a single predictive enterprise, of greater or lesser certitude'.[1] Accurate astronomical data and calculation are an essential part of any predictive process; working out the subsequent effects demanded other skills. Although there are many different models, ancient and medieval cosmologies operated with a distinction between the celestial and terrestrial regions. For example, in the complex cosmology that Grosseteste inherited, from Aristotelian and Arabic traditions, amongst others, the universe consists of two regions divided by the moon. The higher, celestial spheres, associated with the fixed stars and the planets, are perfect, immune from change save movement in space. Below the moon, different conditions apply. The world here is subject to constant change and susceptible to generation and corruption. The notion that the planets have a causal influence on what happens on earth, from natural phenomena to human

[1] Roger Beck, *A Brief History of Ancient Astrology* (Oxford: Blackwell, 2007), 3.

behaviour, is the basis of astrology. Mundane astrology was seen as a natural and legitimate part of astronomy. Where difficulties emerge, especially in the Christian tradition, is on the issue of judicial astrology, especially insofar as it impinges upon the fate of the individual.

The claim, inherent in judicial astrology, that the future can be predicted by study of the stars was regarded as suspect on account of its implicit double denial of human free will and God's omnipotence.[2] At Hereford Grosseteste would have encountered a devotee of judicial astrology in Master Roger (Ch. 1 §3.5). However, the way in which he describes and deploys astronomy-astrology is precise and seems designed to strike a balance between the suspicions against the whole enterprise from some quarters, and the uncritical enthusiasm for it among other groups.[3] A similar sense of balance operates in his account of medical astrology at the end of the treatise. Here the emphasis is on helping nature heal by administering remedies at the most propitious time, not on predicting illness and cure on the basis of a horoscope.

Grosseteste devotes most attention in these final sections to the transmutation of metals, using alchemy within an astronomical-astrological context. The definition and history of alchemy, especially its Arabic elaboration, will be outlined below. For the present purpose, it is worth noting that Grosseteste seems anxious to posit the transmutation of metals within a natural, rather than supernatural or magical, sphere. An alchemical understanding of the universe builds, in this sense, on ancient notions, principally Aristotelian, of the elements, qualities, and composition of bodies, applied from the smallest speck of dust to the body of the cosmos.

The sources of Grosseteste's remarks on plants, metals, and the human body are difficult to identify, and any attempt to do so must needs navigate between over-precision on the one hand, and over-generalization on the other. It is easier to point to the foundational thinkers on whose work the medieval development of astronomy and astrology relied. Fundamental to late-antique, early medieval Arabic and western European astronomy was

[2] e.g. Augustine, *De civitate Dei* 8. 19, ed. Dombart and Kalb, CCSL 47 (Turnhout: Brepols, 1955), l. 1.

[3] Southern, *Grosseteste* 102–7. Judicial astrology was popular in Norman and Angevin England. William of Malmesbury records, for example, a story of Gerard Archbishop of York (1100–8 – he had been bishop of Hereford previously) that 'he was guilty on many counts, and was in particular prone to lust. He is also said to have been a devotee of the black arts, on the grounds that he used to make a practice of reading Julius Firmicus secretly in the afternoon' ['multorum criminum reus et maxime libidini obnoxius erat. Qui etiam maleficiis dicitur inseruisse, quod Iulium Firmicum secreto et postmeridianis horis lectitaret']: William of Malmesbury, *Gesta pontificum Anglorum*, ed. and trans. R. M. Thomson and M. Winterbottom (Oxford: Oxford University Press, 2007), 118. 2.