The Science of the *Cosmographia*

The *Cosmographia* was in many ways a product of the traditions of literary *imitatio* practised at Tours and discussed in the previous chapter. It cannot, however, be fully understood in those terms alone. For the scientific themes of the work also connect it to developments in natural philosophy that were taking place in other European centres of learning in this period. The twelfth century saw the growth of a philosophical interest in nature that differed both from the mere accumulation of scientific lore in early medieval encyclopaedias and again from the moral allegorisation of the natural world found in patristic theology.\(^1\) Inspired by the teachings of Plato’s *Timaeus*, accessible primarily through Calcidius’s partial translation and commentary, scholars were coming to see the causes of natural phenomena as ontologically separate from the divine will. The *opera naturae* were distinct from the *opera Dei*, and the natural world was subject to what Plato called a "law-based cause and reason", which could be grasped by human understanding.\(^2\) The medieval development of these ideas can be seen most vividly in a number of texts from the northern French schools in the years immediately preceding the writing of the *Cosmographia*. On the one hand, around 1140, there appeared perhaps the first systematic Latin commentary on the *Timaeus*, by William of Conches; on

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the other, the cosmological principles discussed by Plato and Calcidius were applied to the Christian study of creation in innovative commentaries on the first six days of Genesis by Peter Abelard and Thierry of Chartres, both from the 1130s.

In addition to these Platonic sources, there was also the stimulus of more recently available Latin translations of Arabic science from the peripheries of Christendom, works that transmitted and developed ancient philosophical ideas previously unknown in the Latin West.3 The first wave of medical texts from southern Italy, in translations produced primarily by Constantine the African (c. 1020–1087), introduced a new level of theoretical sophistication to European medicine.4 The cathedral school at Chartres appears to have been an important centre for the reception of such works.5 One of the school's most famous students, William of Conches, was the contemporary of Bernard's to make the greatest philosophical use of such material, even employing medical concepts to explain cosmological phenomena in his Dragneticon philosophiae (1144–1149).6 At the same time, new translations of Arabic astrology, most prominently Abu Ma'shar's Introductorium maius in Latin versions by John of Seville (1130) and Hermann of Carinthia (1140), were starting to have an impact on the natural philosophy of the French schools.7 The Introductorium maius presented the first theoretical explanation of celestial influence in Latin, and the independent treatise by one of its translators, Hermann of Carinthia's

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3 See above, Introduction, n. 38.