CHAPTER SIX

PHILOSOPHY AND SCIENCE IN THE ELDER PLINY’S NATURALIS HISTORIA

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Introduction

Two other relevant contributions analyze key issues which make the Naturalis Historia such a characteristic artifact, that is, curiosity (Beagon, in this volume), and the sequential and hierarchical order with which Pliny describes the items relevant to Natura and Man (Henderson (2011)).1 Here, I discuss the issue of philosophy and science. By philosophy I will mean the discipline to which both the ancient sources and modern scholars refer in the context of the Greco-Roman world. By science I will mean Pliny’s accounts involving empirical observations, either direct or secondary, calculations and quantifications of natural objects, resources and phenomena, as well as any methods, procedures and activities concerned with the design, realization, administration, handling and use of substances and artefacts intended for practical purposes. As several scholars have used the term ‘science’ in connection with classical antiquity,2 I feel that it can reasonably be discussed in connection with Pliny, provided due allowance is made for the lack in his day of both the equipment and the normative approach of modern science and technology.

Discussion of Pliny’s science is already available in several studies which have analysed a great many accounts of the HN concerned with metals, minerals, chemical substances etc.3 The ‘philosophy’ of Pliny has been discussed in other studies concerned with either his cultural

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1 There is a huge literature on general and specific aspects of the Naturalis Historia, and for a summary see Serbat (1986). Recent research is available in (e.g.) Citroni Marchetti (1991), Beagon (1992), French (1994), Healy (1999), Rottländer (2000), Naas (2002), Carey (2004), Murphy (2004), Beagon (2005).
background, or the interpretation of specific passages of the *HN*. My approach is different here, because I will discuss the natures, functions and mutual relationships of philosophy and science in Pliny, and I will try to show that such an analysis offers a more accurate understanding not only of specific passages, but also of some of the general motivations underpinning his narrative. I will compare my analysis with the interpretations given by commentators on specific passages, as well as with their general attitude towards Pliny. I will finally examine Pliny’s accounts within the cultural *milieu* of his day, and I will try to identify the sources which influenced his treatment of philosophical and scientific subjects.

*The Evidence and Its Analysis*

In his account of the two kinds of lead (*natura plumbi, HN* 34.156), i.e. lead proper (*plumbum nigrum*) and tin (*plumbum candidum or album*), Pliny says (*HN* 34.161):

\[ A) \text{Albi natura plus aridi habet, contrae nigri tota umida est. ideo album nulli rei sine mixtura utile est.} \]

The substance of white lead has more dryness, whereas that of black lead is entirely moist. Consequently white lead cannot be used for anything without an admixture of another metal.

This passage is difficult to understand. Indeed, the notion that the dry nature of tin makes this metal impossible to use, unless it is mixed with other metals, has no explanatory reference either in the immediate context of the passage, or elsewhere in the *Naturalis Historia*. None of the interpretations offered by modern commentators is satisfactory, and just as unsuccessful seems to be any attempt at finding a possible reference to the dryness of tin in the ancient sources of Greek philosophy up to Aristotle, who even says that ‘silver and tin … contain water’, exactly the opposite of Pliny’s statement in passage A.

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5 Unless noted otherwise, all translations of the Pliny passages discussed here are those of Rackham, and taken from the relevant volume of the Loeb Classical Library edition of the *Naturalis Historia*.