This paper examines the use of analogies and metaphors drawn to physiological processes in order to explain meteorological phenomena and expound cosmological ideas, particularly as reflected in the writings of Aristotle, Epicurus and Lucretius. For these philosophical authors, the earth was not a living thing, yet the analogies and metaphors they used indicate that a consideration of living bodies, human and otherwise, could aid in understanding and explaining other natural, but inanimate, phenomena. That the earth was not a living being may have made the analogies and metaphors invoking physiological processes even more compelling: their power was achieved simultaneously both through novelty and intimate familiarity. A brief consideration of the use of similar analogies in seventeenth-century England is included.
In their Call for Papers for the present volume, the editors highlighted difficulties in applying the concept of physiology to ancient Greek and Roman medicine; for example, they noted that ‘where we would expect causality, we meet “only” with analogy’. Drawing attention to the situation in the Early Modern period, in which ancient explanations of physiological phenomena existed alongside newly emerging methods of explanation based on the study of nature, they drew attention to meteorology, geology and cosmology, as well as political and economic theory, as areas in which metaphors derived from physiology gained popularity.

What follows is an examination of the use of analogies drawn to physiological processes to explain meteorological phenomena and to expound cosmological ideas, primarily in the Greco-Roman world; I shall also refer briefly to the use of similar analogies in the Early Modern period. I will focus on explanation-building, and the relationship of analogies to observations, particularly in Aristotle, Epicurus and Lucretius, not least because these authors were important not only in Antiquity, but also in the Early Modern period. Furthermore, both Aristotle and Epicurus commented on analogies and/or metaphors, giving possible insight into their own use of them. The relationship of analogies to metaphor will be addressed; generally, analogies point to resemblances, while metaphors may include novelty as an important feature. Recognising that none of the ancient authors under consideration thought that the earth or the cosmos itself is a living being, I will consider issues raised by references to the body and its associated physiological processes in analogies and metaphors intended to explain the natural world.

**Analogy and metaphor**

Analogy has been recognised as pervasive in Greek natural philosophy, and it is worth considering the use of the terms *analogia* and *metaphora* by ancient authors. While the Greek word *analogia* (ἀναλογία can refer to ‘proportion’ (for example, 2 is to 4 as 4 is to 8) – in fact the mathematical meaning is the first one listed in the *Greek-English Lexicon* of Liddell, Scott and Jones (LSJ) – it can also mean ‘analogy’ in the sense of

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1. These authors are also the focus because of the relative abundance of evidence for their views. Because of limitations of space, other authors can only be mentioned very briefly here. This paper develops ideas I explored in Taub L., *Das Lebewesen und die Erde: Analogie oder Metapher in physikalischen Erklärungen der Antike?*, *Antike Naturwissenschaft und ihre Rezeption* 20 (Trier: 2010) 65–79.