This volume provides a valuable contribution to our knowledge of eighteenth- and nineteenth-century intellectual life inside and outside Germany. Prof. Karl S. Guthke, Harvard University.

This elegant collection of essays ranges across eighteenth and nineteenth-century thought, covering philosophy, science, literature and religion in the 'Age of Goethe.' A recognised authority in the field, Nisbet grapples with the major voices of the Enlightenment and gives pride of place to the figures of Lessing, Herder, Goethe and Schiller.

The book ranges widely in its compass of thought and intellectual discourse, dealing incisively with themes including the philosophical implications of literature and the relationship between religion, science and politics. The result is an accomplished reflection on German thought, but also on its rebirth, as Nisbet argues for the relevance of these Enlightenment thinkers for the readers of today.

The first half of this collection focuses predominantly on eighteenth-century thought, where names like Lessing, Goethe and Herder, but also Locke and Voltaire, feature. The second has a wider chronological scope, discussing authors such as Winckelmann and Schiller, while branching out from discussions of religion, philosophy and literature to explore the sciences. Issues of biology, early environmentalism, and natural history also form part of this volume. The collection concludes with an examination of changing attitudes towards art in the aftermath of the 'Age of Goethe.'

The essays in this volume are brought together in this collection to present Nisbet's widely-acclaimed perspectives on this fascinating period of German thought. It will be of interest to scholars and students of the intellectual life of Europe during the Enlightenment, while its engaging and lucid style will also appeal to the general reader.
1. Lucretius in Eighteenth-Century Germany

With a Commentary on Goethe’s Poem ‘Metamorphosis of Animals’

John Ruskin, who had read Lucretius’s *De rerum natura* in his student days as a set book at Oxford, commented in later years: ‘I have ever since held it the most hopeless sign of a man’s mind being made of flint-shingle if he liked Lucretius’. Such antipathy to the Roman poet was nothing new, of course, particularly towards his philosophy. Though his poetry was admired from when it first appeared around the middle of the first century BC, his Epicureanism was unacceptable to the Stoics who so often dominated Roman philosophy. And his materialism was obnoxious to the Christians—so much so that his work was fortunate to survive the Middle Ages. But it is not just that many people have admired his poetry and rejected his philosophy. His reception is more complex than that—more complex, in fact, than that of any other poet I am familiar with. For *De rerum natura* contains so many and disparate strands that it has of necessity appealed in part to many, but as a whole to few. It incorporates a metaphysics of nature and a system of physical science; a moral philosophy with practical guidance on living; numerous observations on natural history; a conjectural history of human society;

1 An earlier version of this chapter was originally published as ‘Lucretius in Eighteenth-Century Germany. With a Commentary on Goethe’s “Metamorphose der Tiere”’, *Modern Language Review*, 81 (1986), 97–115.

and a powerful statement on religion, culminating in a denial of human immortality and, to all intents and purposes, of the gods. As poetry, it is almost as varied: it contains superb lyrical passages in a descriptive, idyllic, or hymnic vein, along with tracts of abstract—and at times arid—philosophical verse, and there are fiercely satirical and polemical passages as well. Consequently, this unique composition has tended to be used over the centuries as a quarry by poets, philosophers, and scientists, rather than endorsed as a whole or imitated directly in the way that more homogeneous forms such as the elegy, epigram, satire, or ode have been.

Nevertheless, Lucretius had a particular appeal to the eighteenth century, and the reasons are not hard to identify. His uncompromising intellectualism, his belief that knowledge alone—especially knowledge obtained through causal, scientific explanation—is the path to human salvation, was congenial to the post-Newtonian age. The Enlightenment’s increasing preoccupation with nature to the detriment of theology, and the immense popularity of didactic poetry as a means of disseminating the new knowledge, made his work more accessible than ever before. In Germany, however, which was generally more conservative than France or England in the century of the Enlightenment, there were greater obstacles than elsewhere to his reception—above all in religious quarters. This no doubt explains why the first complete translation of De rerum natura to appear in German was not published until 1784, over a century after that of Thomas Creech had appeared in England and that of Michel de Marolles in France. In fact, interest in the poem in Germany did not reach its height until the last two decades of the century, when the heyday of didactic poetry was already over.

5 Titus Lucretius Carus. The Epicurean Philosopher: His Six Books, De Natura Rerum, done into English Verse with Notes by Thomas Creech (Oxford: Anthony Stephens, 1682); see also Gordon, p. 170 (who gives the date as 1683).
6 Michel de Marolles, Le Poète Lucrèce, latin et français (Paris: T. Quinet, 1650); see also Gordon, p. 154. The first Italian translation was published in 1717 (Gordon, p. 147).
The reception of Lucretius in France and England has been fairly fully documented. But there is not, so far as I am aware, a detailed study of his reception in Germany during that (or indeed any other) period. Such a study would have to take account of responses to Lucretius on the part of Brockes, Haller, and many lesser didactic poets such as Kästner, Creuz, and Dusch; of Frederick the Great, Lessing, Nicolai, Lichtenberg, Wieland, Thümmel, Kant, Herder, Goethe, Schiller, Heine, Schelling, and Steffens; and, if it extended further into the nineteenth century, of Hegel, Schopenhauer, Büchner, Marx, Nietzsche, and many others. The aim of this essay, which is intended as a preliminary survey, is altogether more modest. (It appears to me in any case that a chronological survey of individual responses to Lucretius would be of limited value, precisely because, as I said before, his reception is so piecemeal and diversified.) The first priority, I believe, is to identify the main areas in which his influence made itself felt, and the pattern of individual responses should

---


8 Even the last three works referred to in the previous note have relatively little to say on Germany. More useful in this connection is Wolfgang Schmidt, ‘Lucrez und der Wandel seines Bildes’, Antike und Abendland, 2 (1946), 193–219, which, despite its general title, has more material on Germany than on other countries. Gerhard Sauder, Der reisende Epikuräer: Studien zu Moritz August von Thümmels ‘Reise in die Mittäglichen Provinzen von Frankreich’ (Heidelberg: C. Winter, 1968) contains an informative account of the revival of Epicurean ethics in eighteenth-century Germany (pp. 181–94).
then become more intelligible. I shall accordingly try to define the main strands of Lucretius’s influence in eighteenth-century Germany, and then, with reference to representative individuals, to examine one or two of the more important of them more closely.

There is firstly the scientific legacy—less obvious, perhaps, in the Enlightenment than in the seventeenth century with the revival of atomism by Gassendi, Boyle, and others, but still discernible. Then there is the impact on metaphysics and religion, in which Lucretius is hotly refuted by Christian apologists and at the same time continues to act as a subversive influence and a stimulus to freethinking. In moral philosophy, he plays a part in the revival of Epicurean ethics (for example, in the hedonism of the Rococo) as a reaction to the Stoicism of the Baroque era. In the poetic sphere, there is a wave of Lucretian—or more often, anti-Lucretian—poetry in the early to mid-eighteenth century. Then there is a protracted debate in Germany on the whole status and legitimacy of didactic poetry, a debate which stretches from Gottsched and Lessing to Weimar Classicism and on to the Romantics and Hegel, and in which Lucretius is frequently cited as a cardinal instance. And in the closing decades of the century, the question is finally faced as to whether a new De rerum natura, incorporating a unified

---

9 It is clearly visible, for example, in Kant’s Allgemeine Naturgeschichte und Theorie des Himmels of 1755, and in much of Herder’s thinking on scientific matters: see my Herder and the Philosophy and History of Science (Cambridge: MHRA, 1970) (hereafter ‘Nisbet’), pp. 98–100, 107, and further references under ‘Lucretius’ in the index to that work.


11 A good deal of groundwork on this area has been done by Walter Schatzberg, Scientific Themes in the Popular Literature of the German Enlightenment, 1720–1760 (Berne: Herbert Lang, 1973). Schatzberg comments on many Lucretian and anti-Lucretian poems in the period (see references under ‘Lucretius’ in his index), and he remarks on the need for a study of Lucretius in eighteenth-century Germany. See also Leif Ludwig Albertsen, Das Lehrgedicht. Eine Geschichte der antikisierenden Sachepik in der neueren deutschen Literatur (Aarhus: Akademisk Boghandel, 1967), especially pp. 316–28 (‘Das große antimaterialistische Lehrgedicht’). Christoph Siegrist, Das Lehrgedicht der Aufklärung (Stuttgart: Metzler, 1974) contains little, however, on Lucretius and his influence.

view of the cosmos and the findings of post-Newtonian science, can be written, and if so, by whom.\textsuperscript{13} It would further be instructive to consider which passages from Lucretius are most frequently quoted by German writers of the period (for example, the opening lines of Books I and II), and to examine the function of such quotations. Lastly, there is the history of the first German translation of Lucretius’s poem,\textsuperscript{14} particularly the hexameter version by Karl Ludwig von Knebel, in the preparation of which Goethe and Herder were intensively involved; this translation, although it was begun in the 1790s, was not published in its completed form until 1821.\textsuperscript{15} (There are also, of course, various Latin editions of \textit{De rerum natura} and philological commentaries on it during the period in question; but these belong to the history of classical scholarship rather than to that of the poem’s reception.)

Work has been done in several of the above areas (as I have indicated in the footnotes), but rarely from the perspective of the reception of Lucretius, which is usually treated only incidentally. It is from this perspective that I propose now to look at two major areas, one philosophical, the other poetic: briefly and selectively, at the effects of Lucretius’s materialism as a threat to traditional religious values in Germany; and in more detail, at the ambitious plan, in which Goethe played a leading part, to write a neo-Lucretian epic of nature for the modern age.

Along with Spinoza, Lucretius provided the eighteenth century with one of its main models for a rigorously naturalistic explanation of all reality, and the radical Enlightenment with one of its weapons against teleological and providential views of nature and human history.\textsuperscript{16}


\textsuperscript{14} For bibliographical details of these, see the reference to Gordon in note 4 above.


The ideas of Spinoza are explicitly coupled with the materialism of Lucretius and Epicurus in one of the most notorious anti-religious tracts of the early Enlightenment, the anonymous \textit{Traité des trois imposteurs}, first published in 1719 and later reissued by the Baron d’Holbach (see Pierre Retat’s edition of the \textit{Traité} (Lyons: Universités de la Région Rhone-Alpes, 1973), pp. 12 and 81). La Mettrie also couples the two,
Lucretius’s arguments against religion, immortality, and the fear of death are continually cited by the *philosophes*: the line *tantum religio potuit suadere malorum* (‘so powerful was religion in persuading [people to perform] evil deeds’),\(^\text{17}\) with which Lucretius deplores the superstitions that led to the sacrifice of Iphigenia, is perhaps the most frequently cited. Such radicalism is, of course, extremely rare in Germany, at least in the first half of the century. But in 1729, in his poem ‘Thoughts on Reason, Superstition, and Unbelief’, Albrecht von Haller does echo Lucretius’s anti-clerical sentiments and his theory that religion is a product of fear, and quotes the famous *tantum religio*... as a footnote to his own line ‘What evil has occurred that was not the work of a priest?’\(^\text{18}\) He directs these sentiments not, however, at the Protestant faith he grew up in but at false religion (by which he means Roman Catholicism). Frederick the Great, on the other hand, had no such reservations. He described *De rerum natura* as his breviary, to which he resorted in moments of despondency and which he carried with him on the battlefield; his own ‘Épître au Maréchal Keith’ (‘Epistle to Marshal Keith’) is closely modelled on Book III of Lucretius’s poem, and consists of a polemic against the fear of death and the belief in immortality.\(^\text{19}\) Those didactic poets of the time who wrote poems on the natural universe in imitation of Lucretius usually took care to distance themselves from his views on providence and religion.\(^\text{20}\) Nevertheless, some of these compositions, such as the young Wieland’s long didactic poem (his first major work) *Die Natur der Dinge* (*The Nature of Things*) of 1751 and Friedrich Carl Casimir von Creuz’s *Lucretian Thoughts* of 1763–

\(^{17}\) *De rerum natura*, I, 101; subsequent otherwise unidentified references in the text by Roman and Arabic numbers are to book and line of Lucretius’s poem.

\(^{18}\) Haller, *Gedichte*, ed. by Ludwig Hirzel, 2 vols (Frauenfeld and Leipzig: Huber, 1917), II, 53; this poem is full of Lucretian sentiments, which are countered towards the end by an appeal to Christian faith.


\(^{20}\) See, for example, Albertsen, pp. 152, 242–43 and Schatzberg, pp. 206, 244, and 266–67.
The young philosopher Kant, in his epoch-making work on cosmogony, the *Universal Natural History and Theory of the Heavens* of 1755 (the earliest statement of what later became known as the Kant-Laplace theory of stellar evolution), attempts in his preface to dissociate himself from Lucretian materialism and to uphold the doctrine of divine providence. Nevertheless, he proceeds to explain the evolution of the solar system by combining Newtonian mechanics with the Epicurean theory of a random concourse of atoms (Kant, II, 266). His pupil Herder made copious notes from *De rerum natura* in 1766, and his posthumous papers suggest that he was seriously preoccupied with philosophical materialism around this time. In Wieland’s novel *The History of Agathon* of 1766–67, Epicureanism has become a central theme: the hero Agathon is plagued by doubts concerning providence, doubts which are reinforced by the arguments of the Sophist Hippias, who adopts a Mephistophelean role in undermining the young hero’s Platonic idealism. Hippias is an Epicurean; his doctrines of the soul’s mortality, of random creation by the movement of atoms in space, his contention that religion is based solely on fear and that the gods, if they exist at all, are indifferent to human affairs—all this is Epicurean philosophy, taken for the most part from Lucretius (who is mentioned or alluded to on several occasions).

---

21 As Gode-von Aesch (pp. 39–40) observes, Wieland’s poem incorporates two distinct conceptions of God, one transcendent, the other immanent; see also Wieland’s preface to the poem, where he speaks of God as the ‘Seele der Welt’ (‘soul of the world’), in Wieland, *Gesammelte Schriften*, ed. by the Königlich-Preußische Akademie der Wissenschaften (Berlin: Weidmann, 1909–), Erste Abteilung, I, 7. Creuz’s poem envisages the creation of living creatures other than man by purely natural processes, and parts company with Lucretius only when it comes to the human soul: see C. C. von Creuz, *Oden und andere Gedichte*, 2 vols (Frankfurt a. M.: Varrentrapp, 1769), II, 199–226 (p. 217): ‘Lucretius, I can no longer be your pupil!’

22 Kant, *Gesammelte Schriften*, ed. by the Königlich-Preußische Akademie der Wissenschaften (Berlin: Reimer, 1902–), I, 221–28; but even in the preface, Kant admits: ‘I shall not deny that the theory of Lucretius or his forerunners Epicurus, Leucippus and Democritus has much similarity with mine.’ Compare Hermann Hettner, *Geschichte der deutschen Literatur im achtzehnten Jahrhundert*, ed. by Georg Witkowski, 4 vols (Leipzig: Paul List Verlag, 1928), II, 160: ‘At school, Lucretius was his [Kant’s] favourite object of study, and at university, Newton.’


24 Wieland, *Geschichte des Agathon* (first version), ed. by Fritz Martini (Stuttgart: Reclam, 1979), p. 36 (doubts on providence), pp. 58–60 and 89 (Hippias’s Epicureanism), and pp. 183 and 405 (references to Lucretius and to *De rerum natura*, II, 14). The narrator’s description of Hippias’s calm on seeing Agathon’s passions boil over
Hippias’s philosophical position is never properly refuted either by Agathon or by the narrator; it is only his thorough-going hedonism, that dedication to sensual pleasure which has been popularly known for centuries as ‘Epicureanism’ (and which goes far beyond anything to be found in Lucretius), that is decisively rejected. In an age in which Christian doctrine was being steadily eroded, it is the moral rather than the theological position which, as in so many other writers of the time, remains firm. Agathon’s philosophical and religious uncertainty, however, suggests that Wieland’s earlier efforts to refute Lucretius in his poem The Nature of Things had by no means silenced his own doubts on such matters. It is also worthy of note that, in Wieland’s later novel The Abderites of the 1770s, the only positive character described at length in a society of fools is the atomistic philosopher Democritus, the direct intellectual ancestor of both Epicurus and Lucretius.

It seems that nearly all the major writers in Germany around this time had their crises of faith and doubts concerning providence. When such crises occur, it is often either Lucretius or Spinoza who provides the unsettling influence. Schiller is no exception. His early poem ‘The Plague’, published in 1782, describes the horrors of the plague in a way which recalls the vivid account of the plague in Athens with which Lucretius (VI, 1138–1286) concludes his work.25 Schiller’s poem ends with the bitterly ironic comment on providence: ‘In terrible fashion the plague gives praise to God’. The young Goethe’s most famous outburst against the gods, his poem ‘Prometheus’, is full of the Lucretian spirit of religious defiance; its opening challenge to Zeus to practise his thunderbolts on oaks and mountain-tops like a boy beheading thistles is, plainly an allusion to those lines in Book VI of De rerum natura in which the gods are ridiculed, and thereby denied, for wasting their projectiles on obviously random targets: ‘Why [...] do they [the gods] aim at deserts and waste their labour? Or are they then practising their arms and strengthening their muscles? [...] And why does he [Jupiter]

---

25 Friedrich Schiller, Anthologie auf das Jahr 1782, ed. by Katharina Mommsen (Stuttgart: J. B. Metzler, 1973). As the editor, who also notices the influence of Spinoza on the early poems, remarks, ‘his model was Lucretius’ (pp. 18–19).
generally attack high places, why do we see most traces of his fire on the mountain tops? And in 1789, Goethe declares in a letter to Stolberg, ‘that I personally adhere more or less to the doctrine of Lucretius and confine all my pretensions to the sphere of life’. Lucretius, along with Spinoza, is one of the chief inspirations of that consistent naturalism which Goethe professes in his classical period at the time when his scientific studies were at their height. He constantly discussed Lucretius with his friend Knebel, who was translating the poem, and himself planned to write a long essay on the subject (Grumach, I, 348–49), but, since he became increasingly attached in his later years to a belief in some kind of personal immortality, he now felt obliged to distance himself from Lucretius’s polemics against the fear of death. He did so in a humorous manner, likening them to Frederick the Great’s outburst at the Battle of Kolin to a group of his grenadiers who hesitated to mount a frontal assault on an enemy battery: ‘You dogs, do you then want to live for ever!’ (p. 348).

Even from these few scattered examples, it is apparent that Lucretius provided a constant encouragement to secular ways of thinking in the second half of the eighteenth century in Germany. None of the major thinkers of the time adopted his philosophy as a whole, of course; it simply helped to undermine the Christian beliefs they had inherited. There are, however, at least two lesser-known figures who became thorough-going philosophical materialists, and both were members of the Weimar circle. One is Knebel, the translator of Lucretius, whose posthumous essays ‘On Immortality’, ‘Reflections on Lucretius’, and ‘Atheism’ fully endorse the Epicurean philosophy. The other is August

---


27 Goethe to F. L. von Stolberg, 2 February 1789, in Ernst Grumach, *Goethe und die Antike. Eine Sammlung*, 2 vols (Berlin: De Gruyter, 1949), I, 348–49. All of Goethe’s explicit comments on Lucretius are assembled in Grumach, I, 335–52. Karl Bapp, ‘Goethe und Lucrez’, *Jahrbuch der Goethe-Gesellschaft*, 12 (1926), 47–67 is largely a list of Goethe’s references to Lucretius, but some of the Lucretian allusions in Goethe’s writings are also noted.

von Einsiedel, an eccentric figure whose unpublished reflections on atoms and the struggle for existence Herder copied out for his private use.29 And when, in the nineteenth century, materialism finally came out into the open in Germany, its classical origins were still evident. The young Karl Marx wrote his doctoral dissertation on Democritus and Epicurus and their philosophies of nature. His strong sympathy with Epicurus, and with his most eloquent disciple, Lucretius, is evident throughout.30

So much for Lucretius as a subversive philosophical influence. I want to consider now the poetic issue of neo-Lucretian experiments and the plan for a new ‘De rerum natura’ for the modern age.

The philosophico-scientific poem is one of the most characteristic poetic genres of the eighteenth century.31 The aim of such poetry, especially in the first half of the century, is to reconcile the findings of modern science and natural philosophy with Christian theology, usually by means of the argument from design. All such poems, from Richard Blackmore’s ‘Creation’ of 1712 to Charles Claude Genest’s ‘Principes de Philosophie’ of 1716 and Barthold Hinrich Brockes’s nine-volume collection *Irdisches Vergnügen in Gott* (*Earthly Delight in God*) of 1721–48, are anti-Lucretian works, whether or not Lucretius is explicitly mentioned in them (as he frequently is). Of those which are specifically directed against Lucretius’s poem, and consciously modelled on it as their formal archetype, the most celebrated at the time was Cardinal de Polignac’s Latin *Anti-Lucretius* published posthumously in 1747.

---

29 See August von Einsiedel, *Ideen*, ed. by Wilhelm Dobbek (Berlin: Akademie-Verlag, 1957); as Dobbek observes, ‘Fundamental for August von Einsiedel is his allegiance to Democritus, the most significant representative of materialistic philosophy in ancient Greece’ (p. 11).


Polignac conceived the idea of his poem around the beginning of the century, possibly after an argument about providence with the French sceptic Pierre Bayle.\textsuperscript{32} Despite its title, it is directed mainly against modern thinkers such as Hobbes, Spinoza, Locke, Gassendi, and (unfortunately for the later reputation of Polignac who was a Cartesian in scientific matters) Isaac Newton. It is probable that Polignac’s poem gave Wieland the idea of writing his own \textit{The Nature of Things} of 1751, for Polignac is extravagantly praised in that work.\textsuperscript{33} These poems, despite their Lucretian trappings (Wieland, for example, invokes Minerva and Clio, in parallel to Lucretius’s invocations of Venus and Calliope), are little more than versified philosophy. Mercifully, Wieland’s poem (of which he was later ashamed) contains a mere 4,177 lines, as against the 7,415 lines of Lucretius himself and the 11,931 lines of Polignac’s (albeit unfinished) poem.

Such versified treatises and rhyming encyclopaedias of natural history helped to bring the long didactic poem into disrepute. It was condemned by Lessing,\textsuperscript{34} and by others down to the time of Hegel,\textsuperscript{35} as unpoetic. Even Goethe and Schiller, although they wrote didactic poems themselves, joined in the criticism;\textsuperscript{36} they did, however, leave the way open for a didactic poetry which might overcome the defects of past attempts.\textsuperscript{37} The ultimate authority behind all such condemnations

\textsuperscript{32} This anecdote is reported in, for example, Johann Jakob Dusch, \textit{Briefe zur Bildung des Geschmacks}, 6 vols, rev. edn (Leipzig: Meyer, 1773), II, 118. The first two volumes of this work deal solely with didactic poetry, and the long section on Lucretius (Vol. II, Letters 1–5) translates substantial parts of \textit{De rerum natura} into German prose. For further details on Polignac, see Wolfgang Bernard Fleischmann, ‘Zum Anti-Lucretius des Kardinals de Polignac’, in \textit{Romanische Forschungen}, 77 (1965), 42–63.

\textsuperscript{33} Wieland, \textit{Gesammelte Schriften}, I, 21: ‘You, great Polignac, you crown of our age,/ Have long since consigned his [Epicurus’s] host of atoms to the void.’

\textsuperscript{34} Lessing, \textit{Sämtliche Schriften}, ed. by Karl Lachmann and Franz Muncker, 23 vols (Stuttgart, Leipzig and Berlin: Göschen, 1886–1924), VI, 409–45 (\textit{Pope a Metaphysician!}): ‘Lucretius and his like are versifiers, but not poets’ (p. 415).


\textsuperscript{37} Goethe’s criticisms of the genre in \textit{On Didactic Poetry} (1825) are by no means unqualified, and his own plan of 1799 to write a great epic of nature shows considerable faith in its possibilities (\textit{Briefwechsel zwischen Goethe und Knebel}
was, of course, Aristotle, who had denied that the philosophical verse of Empedocles was poetry (Poetics, Chapter I). Herder, however, had a more favourable opinion of the genre, and he took issue directly with Aristotle in its defence: characteristically, he employed the historical argument that poetry has evolved further since Aristotle’s time, so that Aristotle’s strictures are not applicable to more recent forms. The latter include the work of Lucretius himself, who is always for Herder the supreme example of the didactic poet. In his early years, he even planned himself to write what he called ‘a philosophical epic on the human soul’ (that is, on psychology). But he soon abandoned this scheme—Herder’s poetic talents were modest—and began to call on others to make the discoveries of modern science the subject of a new Lucretian poem (SW I, 470; V, 295, 320; XXIII, 247; etc.). In 1801, he put forward the suggestion, which Schelling soon afterwards developed at length, that scientific systems have an inherently poetic quality which makes them especially suitable for poetic treatment: ‘every system is itself a poem in so far as it is independent, whole and pure’ (SW XXIII, 243; see also XI, 293 and XXIV, 299).

It is indeed remarkable how often terms such as ‘Dichtung’, ‘Poesie’, and even ‘Roman’ are applied to scientific theories in eighteenth-century Germany—often, but by no means always, pejoratively. But the idea that scientific systems may have an inherently poetic quality is perhaps more comprehensible in relation to the sciences of those days than to the exact sciences of today. Those which attempted to explain the history of the earth or the universe, for example, are often vivid, imaginative reconstructions of cosmic events and processes, comparable in some respects to the science fiction of today. This is

---

38 Herder, Sämtliche Werke (SW) ed. by Bernhard Suphan, 33 vols (Berlin: Weidmann, 1877–1913), IV, 282 and 290. For further details, see Nisbet, ‘Herder und Lukrez’ (note 15 above).

true of such works as William Whiston’s *New Theory of the Earth*, in which the earth’s origin and Noah’s Flood are explained as the effects of a comet passing close to the sun, and of later versions such as the cosmogony of Buffon, whose *Époques de la nature* (1778) contains equally bold speculations on earth history which seemed fantastic to many of his contemporaries. It was perhaps in France that the word ‘roman’ (‘novel’) was first applied to imaginative theories of the universe. Meusnier de Querlon, in 1777, applied it to ‘De rerum natura’ itself, which he described as ‘le roman physique de Lucrèce’ (Fusil (1930), p. 163). In 1780, Goethe finds the word entirely appropriate to Buffon’s *Époques*, which he praises for its comprehensiveness: ‘for which reason also Frenchmen, and Franco-Germans and Germans say that he wrote a novel, which is very well put, because the honourable public knows everything extraordinary only through the novel’.  

This use of the word *Roman* to denote an imaginative, systematic account of the world’s origins explains what Goethe must have had in mind when he planned, in the early 1780s, to write a ‘novel on the universe’; it seems to have been conceived as an imaginative account of earth history, possibly in letter form, and the highly poetic essay *On Granite* of 1784 may have been connected with it. It was never written, of course. But it is possible that the novel *The Elective Affinities* of 1808, in which fundamental human relationships are likened to basic chemical reactions so as to suggest that all of nature is a single, unitary whole, is, in its conception, a late echo of the earlier project.

By the 1790s, after repeated promptings by Herder, Knebel had begun to translate Lucretius. Goethe in turn began, with Knebel’s encouragement, to consider ways of expressing his own scientific ideas in poetry. One of his earlier attempts is probably the curious poetic

---

40 Goethe to Merck, 11 October 1780, in WA, IV. Abteilung, IV, 311; but see also his letter to Merck of 7 April 1780 (IV, 202), in which he objects to others dismissing Buffon’s work as ‘a hypothesis or a novel’. Compare Herder’s pejorative use of the term a few years earlier (SW, VII, 17), when he speaks of ‘Buffon’s novels of the origin of animals’ (see also Nisbet, Herder and the Philosophy and History of Science, p. 306).

fragment entitled ‘Jussieu’s Classes of Plants’, a kind of mnemonic which, before breaking off in the middle of the fourteenth line, classifies the main families of plants as defined in Antoine Laurent de Jussieu’s botanical system of 1789. The first seven lines set the pattern for the rest:

For a handy reminder of the 15 natural classes
As given to us by Jussieu, I attempted the following verses.
Without bearing seeds, the sponges, the algae and liverwort
Grow with the rest of the mosses, the ferns and naiadaceae.
The core of the seed is simple, and all the stamina
Are placed on top of the fruit in simple blossoming flowers,
As in araceae and typha, the cyperaceae and grasses.

(WA, I. Abteilung, V (2), 405)

No date is given for this fragment in the Weimar edition, but it may well have been written in 1793, when Goethe acquired a copy of Jussieu’s work, or in 1794, when he laid out his garden in flowerbeds corresponding to Jussieu’s classification. The metre is that of Lucretius, the hexameter, and the subject is natural history. But the enumerative presentation recalls the encyclopaedic verse of the first half of the century rather than the ‘De rerum natura’. The next step comes with the elegy ‘The Metamorphosis of Plants’, written in June 1798, which expresses Goethe’s botanical theories in poetic form. But although it has some Lucretian touches, it is for several reasons (apart from its brevity) not a Lucretian poem. The ideas in it, especially the central idea of plant growth as the successive transformation of an archetypal, leaf-like organ, are very much Goethe’s own; its metre is the elegiac couplet, not the Lucretian hexameter; and it has the quality of a personal love lyric. It is addressed to the poet’s beloved, and the climactic moment of plant growth, the moment of reproduction (lines 55–58), becomes a symbol and reaffirmation of their love (lines 71–80). Besides, its poetic

---


43 See Goethe, Begegnungen und Gespräche, ed. by Ernst and Renate Grumach (Berlin: De Gruyter, 1965–), IV, 107: the botanist F. G. Dietrich reports on the work done in 1794.

affinities are modern rather than classical. A few months before he wrote
it, Goethe, in a letter to Schiller, had strongly criticised another botanical
poem, Erasmus Darwin’s ‘The Botanic Garden’, whose second section,
‘The Loves of the Plants’, was published in 1789. He found it poetically
inadequate and overloaded with prosaic factual detail. Schiller agreed,
calling it ‘versified erudition’, but added that he considered the material
capable of genuinely poetic treatment. The elegy ‘The Metamorphosis
of Plants’, with its erotic associations and nuptial imagery, looks much
more like a poetic response by Goethe to Darwin’s ‘The Loves of the
Plants’ than an attempt to write Lucretian poetry. To cite only one
example, the climax of Darwin’s poem, as of Goethe’s, is a multiple
wedding, in which the stamens and pistils within the flower unite to
produce the seed. But whereas Goethe’s version, though poetically
heightened, bears a clear relation to the botanical process it describes,
Darwin’s (characteristically lubricious) lines require a learned footnote
to remind the reader that it is floral reproduction rather than human
promiscuity that is referred to. The German text reads like a corrective
to the English:

And it quickly furls, contracts; the most delicate structures
Twofold venture forth, destined to meet and unite.
Wedded now they stand, those delighted couples, together.
Round the high altar they form multiple, ordered arrays.
Hymen, hovering, nears, and pungent perfumes, exquisite,
Fill with fragrance and life all the environing air.

(lines 51–56, transl. Christopher Middleton)

Pair after pair, along his sacred groves
To Hymen’s fane the bright procession moves;
[...] On wings of gossamer soft Whispers fly,
And the sly Glance steals side-long from the eye.
—As round his shrine the gaudy circles bow,
And seal with muttering lips the faithless vow,
Licentious Hymen joins their mingled hands,
And loosely twines the meretricious bands.—

45 See Goethe to Schiller, 26 January 1798, and Schiller to Goethe, 30 January 1798,
in Briefwechsel zwischen Schiller und Goethe, III, 26–30; see also the quotation from
Schiller’s letter in note 37 above.
46 Erasmus Darwin, The Botanic Garden, 2 vols (London: Jones & Co., 1789–91), II,
Encouraged by the warm reception which ‘The Metamorphosis of Plants’ received among his friends, Goethe began to consider the much vaster project of a Lucretian poem for the modern age. Knebel urged him to use the hexameter, and Goethe declared that he hoped to use Knebel’s translation of Lucretius, which was now well advanced, as the basis of his own poem.\(^\text{47}\) He did not write it, of course. Nor did he write the poem on magnetism he planned in the same context.\(^\text{48}\) But he did write the poem ‘Metamorphosis of Animals’, traditionally dated 1806, but probably written by 1800 at the latest. As Erich Trunz points out, Goethe abandoned his plan for a Lucretian poem in 1800, and he was also turned against using the hexameter around this time by the carpings of metrical purists such as Johann Heinrich Voss and August Wilhelm Schlegel; hence it is improbable that he would have written the poem after that date (HA, I, 546–47, 573, and 585–86). (Besides, the editors of the Weimar edition comment that a surviving draft of the poem ‘perhaps belongs, to judge by the handwriting and character of the paper, to the 1790s’ (WA, I. Abteilung, LIII, 549–50)).

Metamorphosis of Animals

1 Now if your mind is prepared to venture upon the final
Step to this summit, give me your hand and view with an open
Gaze the abundance of Nature before you. Everywhere richly
Gifts she has lavished around, the Goddess, but never she worries
5 After the manner or mortal women, regarding the nurture
Offspring need in a steady supply, that isn’t her wont, for Doubly she has determined the ultimate law: with a limit,
Set to each life and need in its measure, and then without measure
Gifts she has scattered, easy to find, and she quietly favours
10 Motley toils for her children, seeing their needs are so many;
So they will flock and yearn, untrained, for the ends that are set them.

\(^{47}\) See Knebel to Goethe, 18 July 1798 and Goethe to Knebel, 22 January 1799, in Briefwechsel zwischen Goethe und Knebel (1774–1832), I, 182 and 201.
\(^{48}\) See Goethe to Knebel, 16 July 1798, in Briefwechsel zwischen Goethe und Knebel, I, 181.
Every animal is an end in itself, it issues
Perfect from Nature’s womb and its offspring are equally
perfect.
All its organs are formed according to laws that are timeless,
15 Even a form very rare will hold to its type, though in secret.
Every mouth is designed to admit particular foodstuffs,
Such as befit the body; an animal feeble and toothless,
One with jaws that are toothed and massive—a suitable organ
Each will possess for channelling food to the rest of its body.
20 Also the feet, whether long or short, will always be moving
Tuned to the animal’s every need and every intention.

Thus has the Mother ordained the health complete and
unbroken
Each of her children enjoys, and the limbs of each, being vital,
Never conflicting the one with the other, have life as their
function.
25 So the shape of an animal patterns the manner of living,
Likewise their manner of living, again, exerts on the animals’
Shapes a massive effect: all organised structures are solid,
Thus, which are prone to change under pressure from
outward conditions.
Deep within the more noble creatures, indeed, a power
30 Dwells enclosed in the holy ring of vital formation.
Here are the limits no god can alter, honoured by Nature:
Only a limit enables a form to rise to perfection.

Deep within, however, a spirit may seem to be wrestling:
How shall he rupture the ring and cause the forms to be
35 random, Yet all his efforts they come to nothing;
For, if he burrows his way right through to this organ or that
one,
Making it grander by far, then other organs will dwindle,
Disproportionate weight and excess of it quickly destroying
All the beauty of form and all pure liteness of movement.
40 So if you see that a creature possesses a certain advantage,
Put the question at once: What is the fault that afflicts it
Elsewhere?—and seek to discover the defect, always
inquiring;
Then at once you will find the key to the world of formation.
For there has never existed an animal into whose jawbone
Teeth are pegged that had a horn sprout out of its forehead; 
Therefore a lion with a horn the Eternal Mother could never 
Possibly make, though she drew on all her potent resources; 
For she has not measures sufficient to plant in a being 
Rows of teeth, complete, together with horns or with antlers.

May this beautiful concept of power and limit, of random 
Venture and law, freedom and measure, of order in motion, 
Defect and benefit, bring you high pleasure; gently 
instructive, 
Thus, the sacred Muse in her teaching tells you of harmonies. 
Moral philosophers never attained to a concept sublimier, 
Nor did men of affairs, nor artists imagining; rulers, 
Worthy of power, enjoy their crowns on this account only. 
So be glad of it, Nature’s loftiest creature, now feeling 
Able to follow her loftiest thought on her wings of Creation. 
Stand where you are, be still, and looking behind you, 
backward,

All things consider, compare, and take from the lips of the 
Muse then, 
So that you’ll see, not dream it, a truth that is sweet and is 
certain.

(HA, I, 201–03; transl. Christopher Middleton)

The ‘Metamorphosis of Animals’ is Goethe’s closest approximation to 
Lucretian poetry—a good deal closer, I believe, than has hitherto been 
realised. It is complete in itself, but its opening lines suggest that it was 
intended to form part of a longer poem, for they seem to presuppose 
an earlier consideration of lower forms of nature before the animal 
kingdom is dealt with:

Now if your mind is prepared to venture upon the final 
Step to this summit, give me your hand and view with an open 
Gaze the abundance of nature before you.

(lines 1–3)

The following lines personify nature as a mother goddess, herself 
immortal, who has lavished her gifts of life in profusion (lines 3–4). This 
brief evocation of nature is, in fact, a shorter equivalent of the apostrophe 
to Venus as the procreator of all things at the beginning of ‘De rerum
natura’ (I, 1–20). The mother goddess, Goethe continues, has no reason to worry over the needs of her creatures, for which she has amply provided (lines 4–9); Lucretius similarly declares: ‘for them all the earth herself brings forth all they want in abundance, and nature the cunning fashioner of things’ (V, 233–34). Goethe’s manner, after this preamble, is expository: there follows a poetic account of some of his theories of animal form. The first of these—‘Every animal is an end in itself’ (line 12) and ‘So the shape of an animal patterns its manner of living’ (line 25)—is a restatement of Lucretius’s repudiation of teleology: animals are not created for a purpose; their purpose is a natural consequence of their shape. As Lucretius expresses it: ‘Nothing is born in us simply in order that we may use it, but that which is born creates the use’ (IV, 834–35). Constant laws, Goethe adds, govern the development of all natural forms, and these naturally imposed limits are inviolable (lines 14–15 and 31–32):

All its organs are formed according to laws that are timeless,
Even a form very rare will hold to its type, though in secret.
... Here are the limits no god can alter, honoured by Nature:
Only a limit enables a form to rise to perfection.49

(The term ‘type’ clearly alludes to Goethe’s theory of an osteological ‘type’ to which all vertebrates conform, but no technical details are supplied here concerning the number and disposition of bones; the formulation remains general, and the emphasis is simply on the law-governed nature of animal growth.) Again, there are comparable passages in Lucretius: ‘A limit has been fixed for the growth of things after their kind and for their tenure of life and... it stands decreed what each can do by the ordinances of nature, and also what each cannot do’ (I, 584–88; see also V, 923–24 and VI, 65–66). After citing a few examples of harmonious animal organisation, Goethe concludes that the limbs of a given animal are never mutually incompatible (lines 23–24):

... and the limbs of each, being vital,
Never conflicting the one with the other, have life as their function.

49 The closeness of these lines (and of lines 50–52) to the sentiments expressed in the sonnet ‘Nature and Art’ of 1800 (HA, I, 245) provides further evidence for dating the poem to around the turn of the century, rather than to 1806.
He subsequently reinforces this point, declaring that monstrous hybrids such as horned lions are impossible (lines 46–47). For these observations, there are again precedents in Lucretius (V, 878–80 and 918–19): ‘But centaurs never existed, nor at any time can there be creatures of double nature and twofold body combined together of incompatible limbs [...] there is no proof that creatures of mixed growth could be made, and limbs of various creatures joined into one.’ In the ceaseless battle between forces of destruction and preservation, the latter succeed in holding their own (lines 33–35); for this point too, there are parallels in Lucretius (for example, lines 569–70).

There is indeed scarcely a sentiment in the first three-quarters of Goethe’s poem that does not have its counterpart in ‘De rerum natura’ (although the examples used to illustrate the matching principles are often different). There is also, in the ‘Metamorphosis of Animals’, that same sense of confidence and certainty which Lucretius derives from the universal rule of natural law. But no less significant than what Goethe includes in his poem is what he excludes from it. For whereas ‘The Metamorphosis of Plants’ had closely followed the doctrines in Goethe’s botanical treatise of the same title, even presenting them in the same sequence (see note 44 above), one of Goethe’s most important zoological theories (the vertebral theory of the skull, according to which the vertebrate skull is composed of modified vertebrae) finds no place at all in the zoological poem or in its original draft; and another (that of the osteological ‘type’ for all vertebrates) is alluded to only in the most general terms (line 15). They are also absent, of course, in Lucretius’s poem. But the two principal theories which Goethe does include (that animals and their organs are not teleologically determined, and that specialism in one function rules out specialism in others) both have parallels in Lucretius. The second of these theories, sometimes referred to as the law of ‘compensation’ or of the ‘correlation of parts’, is regularly enunciated in Goethe’s scientific writings with the help of commercial metaphors: a limited ‘budget’ (estate, budget, household) of resources available to each animal species, within which ‘no part can be added to without something being taken from another’ (HA, XII, 176). And indeed, such metaphors (saved, balance, expenditure) are also

---

50 See, for example, Rudolf Magnus, Goethe as a Scientist, new edition (New York, NY: Henry Schuman, 1949), p. 84.
present in the first draft of the ‘Metamorphosis of Animals’ (WA, I. Abteilung, LIII, 549–52). But significantly, they are absent from the final version of the poem. It would therefore seem that Goethe modelled his poem, at least up to line 49, very closely indeed on Lucretius—so much so that only such ideas and formulations as are compatible with ‘De rerum natura’ are included, and the rest either omitted or expressed in the most general of terms. And even if it were objected that the poem is, in a sense, a fragment, and that we cannot therefore decide what Goethe might have added to it, there is no evidence to suggest that he at any time planned to include in it any further zoological doctrines: the first draft contains no theories which are not also present in the final version; the opening lines suggest that whatever might have preceded them would have concerned natural forms of a lower order than the vertebrates (‘to venture upon the final step’); and the conclusion, as I shall shortly argue, precludes a return to the specifics of zoology. In short, from the initial evocation of the goddess (line 4) to the rejection of monstrous hybrids (lines 44–49), the idiom and substance of Goethe’s poem are eminently Lucretian. It is, indeed, a Lucretian poem on modern (Goethean) science—but only in so far as modern science can be made to resemble the science of Lucretius himself.

Yet despite these close affinities, the differences between the two poems are profound. Where Lucretius is expansive and discursive, Goethe is selective and concentrated. He deals not with the entire natural world, as Lucretius had done, but only with zoology; and even his own zoological theories are not comprehensively covered. Nevertheless, his ‘Metamorphosis of Animals’ is a complete poem—no less complete than that on ‘The Metamorphosis of Plants’. For in both of these poems, the function of the main, descriptive section is not to provide a comprehensive account of botany or of zoology, but merely to lay the basis for a broader concluding statement on nature and man—a personal statement of love as a creative principle in the first poem, and a more general statement on law and freedom throughout nature in the second (lines 50–52):

May this beautiful concept of power and limit, of random Venture and law, freedom and measure, of order in motion, Defect and benefit, bring you high pleasur...
The first part of the poem contains all that is necessary to support this conclusion, so that further zoological detail would have been superfluous. Goethe then widens the scope of his conclusion even further, to encompass human morality, practical activity, art, and politics (lines 54–56):

Moral philosophers never attained to a concept sublimer,
Nor did men of affairs, nor artists imagining; rulers,
Worthy of power, enjoy their crowns on this account only.

In other words, from his observations on zoology, Goethe has moved at once to the highest level of generalisation on humanity and the universe. But there is no such climactic summation in ‘De rerum natura’. Lucretius moves continually to and fro between general principles and empirical illustrations, so that his work attains an epic breadth which is foreign to Goethe’s concentrated didacticism. There is also, in the next lines of Goethe’s poem, a degree of optimism and jubilant faith in humanity that is absent from Lucretius’s sombre reflections on the universal struggle for existence (lines 57–58):

So be glad of it, Nature’s loftiest creature, now feeling
Able to follow her loftiest thought on her wings of Creation.

The beginning of Goethe’s poem certainly seemed to presuppose an earlier section within a longer poem on nature. But the ending, in which the reader is invited to look backwards, not forwards, makes it difficult to imagine how it could have continued beyond this point (lines 59–61):

Stand where you are, be still, and looking behind you, backward,
All things consider, compare, and take from the lips of the Muse then,
So that you’ll see, not dream it, a truth that is sweet and is certain.

The first part of this poem (up to line 49) represents Goethe’s only sustained attempt at writing Lucretian verse. But in concluding it

---

51 For this reason, I find it difficult to agree with Erich Trunz’s remark (HA, I, 585): ‘Both the beginning as well as the end [my italics] point to connections within a larger work.’ The only natural continuation would be further reflections on the place of human beings in the universe. Besides, the reference to the Muse at the end refers back to that in lines 52–53 rather than forward to what the Muse might say in the future.
in the way he did, he denied himself the possibility of developing it into a truly Lucretian work. He opted instead for a shorter analogue of the Lucretian poem, whose structure is foreshadowed in that of ‘The Metamorphosis of Plants’: a few, largely concrete, observations on the natural world are invested, in an abstract and general conclusion, with symbolic and universal significance. He already shows that predilection for the shorter didactic statement, dealing with a few representative phenomena, which becomes characteristic of his later poetry on nature and science. There are, admittedly, further echoes of Lucretius in his later poems; but they never approximate so closely to the Lucretian model as does the first part of ‘Metamorphosis of Animals’. The scientific poems in the sixth book of Tame Xenia (1826), for example, are dense, gnomic, and epigrammatic. And most of the philosophical poems in the collection God and the World, published in 1827, are far closer in character to the concluding lines of ‘Metamorphosis of Animals’ than to its earlier, Lucretian section: they are the concentrated utterances of a sage rather than the systematic teachings of a scientific didacticist, and their tone is more often lyrical than expository. Nevertheless, Goethe remains closer in his attitudes to Lucretius than to Brockes, Haller, and the other didactic poets of the earlier eighteenth century in Germany: his world, like that of the Roman poet, is a unitary whole, in which nature and man are one. But as he told Sulpiz Boisserée in 1815, he now believed that a single long poem on nature was impracticable, and contented himself with assembling various of his shorter poems on nature and science into the balanced collection God and the World. Thus, although his later ideas on the natural universe did go into his poetry, it was not the poetry of a new Lucretius.

---

52 For example, as Bapp (‘Goethe und Lucrez’, p. 66) notices, the poem ‘In Howard’s Honoured Memory’, published in 1820, echoes Lucretius’s description of cloud shapes (IV, 129–42), and its eulogy of Luke Howard recalls Lucretius’s eulogies of Epicurus. T. J. Reed’s description, in The Classical Centre: Goethe and Weimar 1775–1832 (London: Croom Helm, 1980), p. 238, of the ‘Classical Walpurgis Night’ in Faust as ‘a new De rerum natura’ applies to the scope and spirit of the dramatic pageant rather than to its form; the refutation of Anaxagoras by Thales recalls, however, Lucretius’s refutation of Anaxagoras in ‘De rerum natura’, I, 830–920 (see Bapp, p. 66).

In 1800, Goethe gave up his plan for a great epic of nature, and made it over to the young philosopher Schelling. He doubtless knew what he was doing: Schelling’s poetic gifts were minimal, and what little survives of his neo-Lucretian efforts is eminently undistinguished. This is the case with the poem ‘Animal and Plant’, probably written in 1800; it is a lame take-off, in elegiac couplets, of Goethe’s poem ‘The Metamorphosis of Plants’, attempting as it does to associate natural history with the relations between man and woman. It is also, as the following lines show, a crass example of male chauvinism, associating woman with vegetable passivity and man with animal freedom:

And she [nature] gave vegetable nature to woman, whom I call the plant-like
One among animals, and man among them the animal one.
More tender is womanly love, more imperative, quiet, and briefer;
More animal, freer, but also more durable is love in the man.54

Further studies of Dante and his verse-form petered out in translations and fragments, and Schelling in turn abandoned the plan (as did the Danish philosopher Henrich Steffens, who also appears to have picked up the idea of an epic on the universe in Weimar in 1799 or early in 1800).55

Schelling did attempt, however, to discuss the philosophical and aesthetic implications of the project, and to explain why past initiatives had invariably failed. He does so in his Philosophie der Kunst of 1802–03, in the section on the didactic poem.56 His argument is complicated, but it runs in essence as follows. The didactic poem, which has a specific end, namely to impart knowledge, is not properly an art-form, since art must have universality and not be tied to any particular purpose. But knowledge itself possesses universality if it is total knowledge—that is, if it is a complete reflection of the universe. Thus the only didactic poem which will be truly artistic in this sense will be one, as Schelling

55 On Schelling’s plan and its failure, see Rudolf Haym, Die romantische Schule, 4th edn (Berlin: Weidmann, 1920), pp. 695–96; Fritz Strich, Die Mythologie in der deutschen Literatur von Klopstock bis Wagner, 2 vols (Halle: Niemeyer, 1910), II, 29–37; Aesch, pp. 261–63; and Plath, p. 48. On Steffens, see Plath, p. 45 and Steffens, Was ich erlebte, 10 vols (Breslau: Max, 1840–44), IV, 401–02 (‘The subject was always too formidable for me’).
puts it, ‘in which directly or indirectly, the universe, as reflected in knowledge, is the object’. He continues: ‘Since the universe, in its form and essence, is only One, there can ideally be only One absolute didactic poem, of which all individual examples are mere fragments, namely the poem on the nature of things’ (p. 315). All didactic poems of the past, including that of Lucretius, are of necessity only partial, since they are based on partial knowledge. Lucretius, for example, reduces the world to material particles, thereby ignoring the dimension of spirit. Schelling then concludes (echoing Schiller’s essay On Naïve and Sentimental Poetry): ‘That didactic poem, then, in which [...] the object represented is itself poetic, is still to be written’ (p. 317). In other words, the absolute didactic poem, the modern ‘De rerum natura’, still lies in the future, for our knowledge of the universe is as yet incomplete.

Schelling now builds into his argument the observation which Herder had made shortly before (see p. 14 above) when he maintained that a complete system of knowledge is itself inherently poetic. Once human knowledge is complete (that is, once it has achieved identity with the universe), the world-spirit will, as it were, itself generate the absolute didactic poem, and a new mythology to go along with it. Schelling concludes (p. 318): ‘The origin of the absolute didactic poem or speculative epic therefore coincides as a single whole with the completion of science, and just as science originally emerged from poetry, it is also its most beautiful and final destiny to flow back into this ocean.’ Art is thus both the original source and ultimate destination of knowledge (a view which Schiller had already expressed in his didactic poem ‘The Artists’ of 1789). But what the new mythology which the progress of knowledge will eventually generate will look like, Schelling does not say.

Schelling’s argument no doubt made him feel better about his failure to carry out the project that Goethe had handed over to him. But what he says is more than just a personal apology. Whereas Goethe settled for

57 See Schiller, Werke, Nationalausgabe, XX, 453: ‘That didactic poem in which the thought itself were and would remain poetic, is still to be written.’

58 See Schiller’s comments on this poem in his letter to Körner of 9 February 1789 in Briefwechsel zwischen Schiller und Körner, ed. by Klaus L. Berghahn (Munich: Winkler, 1973), pp. 100–01: ‘Thus after the thought [...] that art prepared the way for scientific and ethical culture has been articulated [...] only then may it be said [...] that the perfection of humanity is realised when scientific and ethical culture are resolved into beauty.’
less than the original plan—for a collection of shorter poems on nature and science—Schelling claims that the plan is in principle impossible to fulfil, at least for the foreseeable future. He prices it, so to speak, right out of the market. History, of course, has so far proved him right. The closest approximation to the modern epic of nature is perhaps Alexander von Humboldt’s *Cosmos*, which reviews all of nature as an organic whole, and pays tribute to Goethe’s aspiration to integrate poetry, philosophy, and science. But *Cosmos* is written in prose, not verse, and its formal ancestor is not Lucretius’s ‘*De rerum natura*’ but Herder’s *Ideas on the Philosophy of History*, which tried to present an integral vision of the natural world and human history.

Nevertheless, Schelling’s explanation of why the ‘absolute didactic poem’ has never been written is not, to my mind, either complete or satisfactory. Nor is his secondary argument—of which the Romantics were particularly fond—that it was the lack of a new mythology that hampered modern scientific poets. In the most successful didactic poem of the past, ‘*De rerum natura*’, mythology is in fact used quite sparingly, and it is clear that Lucretius regards the classical myths only as poetic figures: he specifically denies that the gods perform any function whatsoever in the natural universe (II, 1090–92). His main subject is the dynamic process of nature itself. (Schelling simply betrays his own failure to appreciate ‘*De rerum natura*’ when he declares (p. 316) that only the opening hymn to Venus and the eulogies of Epicurus, which display ‘personal enthusiasm’, are truly poetic.) One of the nearest things we have to a modern myth of the universe as a self-contained, natural system is that of the ‘earth-spirit’ (*Erdgeist*) in Goethe’s *Faust*, Part I; and some critics have regretted that Goethe did not develop this further, but overlaid it instead with the old dualistic Christian framework of a transcendental God in the ‘Prologue in Heaven’ (see, for example, Reed, p. 136). It may well be that *Faust* would have been an even more impressive play, more in tune with modern sensibilities, if he had stuck to his original myth. But didactic poetry on scientific themes is a different matter. For good mythology tends to make for bad science,

---

60 Some modern critics, in the wake of Fritz Strich (see note 55 above), have continued to adduce this as a major reason for the failure of the scientific epic in modern times: see, for example, Aesch, pp. 250–60.
as Lucretius well realised when he banished his gods from the universe as we know it to remote and inaccessible regions. The reasons for the failure of the modern epic of nature are more complex than this.

Part of the explanation lies in literary history, of course. In so far as the Lucretian poem is a specific case of the didactic poem in general, it was bound to share in that general decline in popularity of didactic poetry which is apparent in the later eighteenth century as the lyrical poetry of personal experience came to the forefront and prose became the main didactic medium. But the failure of the epic of nature also had a lot to do with the way in which science had developed. It is significant that most of the scientific poetry of the eighteenth century deals with natural history rather than with, for example, chemistry or physics. As the exact sciences grew more mathematical and hence more abstract, they became increasingly resistant to poetic expression.

Wordsworth, in the preface to his *Lyrical Ballads*, hoped that science might eventually become more accessible to the ordinary run of people, and said: ‘If the time should ever come when what is now called science, thus familiarised to men, shall be ready to put on, as it were, a form of flesh and blood, the Poet will lend his divine spirit to aid the transfiguration, and will welcome the Being thus produced, as a dear and genuine inmate of the household of man.’61 This, of course, was not to be. Science has since grown more abstract still. But it is not just the abstraction of modern science that eludes Lucretian treatment. Its sheer extent and complexity are another insuperable obstacle. Admittedly, Lucretius himself had maintained that the universe is infinite (I, 958–67);62 the difference is that the known contents of his infinite universe were vastly fewer and simpler than those of the infinite universe of today. Even by 1800, scientific knowledge had developed too far for the Lucretian poem to accommodate it. In fact, such poetry had degenerated into encyclopaedism over fifty years earlier (which casts an ironic light on Schelling’s claim that science had not yet developed far enough for the ‘absolute didactic poem’ to be written).

---

62 Aesch, pp. 253–66, sees the infinity of the modern universe as the other principal reason why the neo-Lucretian epic failed. He seems unaware that Lucretius’s universe was infinite too.
But there is more to it than that. The aim of Lucretius himself was not primarily to communicate the particulars of the scientific knowledge of his day; he uses these only to illustrate the underlying principles, or rather principle, on which this knowledge is based: namely, the principle that all things are susceptible to explanation in terms of natural causes, without the aid of religion (see Fabian (1968), p. 89). This principle is in turn the basis of his, and Epicurus’s, moral philosophy, which promises the deliverance of human beings from fear, and the serenity of philosophical detachment. We are to attain this end not by denying the existence of death, suffering, and evil, but by accepting them as inevitable, and by learning to live with them as best we can through control of the passions, enjoyment of pleasure, and avoidance of pain. The link between Lucretius’s view of the universe and his moral philosophy is thus a firm one. Newtonian science offered no such moral reassurance. There were, it is true, systems of thought in the eighteenth century which claimed to encompass both the universe of science and the whole of moral and metaphysical reality: above all, that of Leibniz, which supplied the philosophical foundation of most didactic poems in Germany up to the middle of the century. But the link between Newtonian science and Leibniz’s philosophical optimism was neither a close nor a necessary one; his optimism was based not on the progress of physics but on a priori reasoning on the nature of possible worlds. So long as the Leibniz-Wolffian system remained the popular philosophical orthodoxy in Germany, it seemed to go along quite happily with science: teleological reasoning from the wise design of creation helped to preserve the association. But ironically, the very work which the optimists took as their model for the scientific poem, Lucretius’s ‘De rerum natura’, itself contained one of the greatest threats to their optimism in the whole of world literature. For Lucretius’s universe is the product of random movements of atoms, which is incompatible with that benevolent providence in which the eighteenth century so much wanted to believe. As a result, much neo-Lucretian poetry was simultaneously anti-Lucretian poetry. Its faith in science drew it towards Lucretius, and its faith in providence drew it away from him. This ambivalent posture merely underlined its internal weakness and its inferiority to its model.

---

63 Even in the eighteenth century, regrets were sometimes expressed that it did not encompass the moral and spiritual world (see Schatzberg, p. 271).
It is no coincidence that the most successful didactic poem of the eighteenth century, Pope’s *Essay on Man*, sticks largely to moral philosophy, says little about science (despite its tributes to Newton), and, for all its optimism, is full of caveats on the ability of the human intellect to comprehend the universal purpose: ‘Know then thyself, presume not God to scan.’ Pope did not expound an integrated philosophical system; his aims were more modest. He simply stated some of the tenets of popular optimism as it was then current, and devoted most of his poem to moral questions. His optimism was associated with, but not demonstrated from, the findings of modern science, and by the end of the century, this association had become even more tenuous. Science simply could not furnish the basis for a moral philosophy on the Leibnizian pattern. Goethe took the logical step of creating a new, anti-Newtonian science of his own in order to preserve the unity between nature as he understood it and individual moral existence. To him and to many of his German contemporaries, the philosophy of Spinoza, which dispensed with a transcendent God, appeared increasingly attractive, supplementing, or even supplanting, the philosophy of Leibniz.

The development of modern science thus goes a long way towards explaining why the eighteenth century never produced a *De rerum natura* to rival the poem of Lucretius. But there is a further reason why it could not have succeeded: Lucretius, as a poet, had certain advantages over his modern successors which it was not in their power to share. In the age of Newton, science made great discoveries. But Lucretius made an even greater one: he discovered science itself. The teachings of the Greek philosopher Epicurus struck the Roman poet with the force of a revelation, and in his poem, he sets out with evangelical fervour to convert his friend Memmius, and by extension all his readers, to the new gospel. His disadvantage as an early Roman poet, operating with a Latin which, as he himself says in apology (I, 136–45), was ill equipped to render the abstractions of Greek philosophical theory,

---


65 For further examination of this endeavour, see the essay ‘The Ethical Foundation of Goethe’s Scientific Thought’ later in this volume.
became in fact one of his strongest assets: he was compelled to become a linguistic innovator, to deploy in new ways all the resources of archaism, colloquialism, and the down-to-earth concrete vocabulary he had at his disposal, and they lent his verse a vitality and exuberance which an established philosophical terminology could never have achieved.\(^6\) The force of his poetry, what Statius called the *docti furor arduus Lucreti* (‘the high passion of the learned Lucretius’),\(^6\) was the force of triumphant assurance. As Herder shrewdly observed, ‘Never will a didactic poet write more ardently and forcefully than Lucretius wrote: for he believed what he taught’ (SW XIV, 194). Bertolt Brecht, in his remarkable unfinished attempt to render the doctrines of *The Communist Manifesto* in hexameters, shared at least one quality of Lucretius which few of his other imitators possessed, namely his tone of impassioned conviction.\(^6\) That was precisely what Polignac, Wieland, and the eighteenth-century anti-Lucretians lacked. They were dealing in the already well-worn currency of Cartesian and Leibnizian metaphysics, and they were fighting a rearguard action on behalf of a declining faith. In fact, they were themselves already half seduced by the scientific gospel of their Roman predecessor, whose naturalistic tendency was ultimately more in keeping with the spirit of their age than were their own half-hearted compromises between science and religion. By the beginning of the nineteenth century, those who talked of a future epic of the universe had no new wisdom with which to replace the faith they had lost—hence their constant references to an indeterminate future, and to a new mythology yet to come. The Spinozism which some of them espoused was admittedly more consistent with modern science than Leibniz’s metaphysical theories had been—not in its legacy of pantheism (which was already archaic), but in its affirmation of the universal rule of natural law. But this could no longer be presented as a new gospel. Europe already took it for granted.


\(^6\) P. Papinius Statius, *Silvae*, II, 7, line 76.

Although the new Lucretius never made his appearance, the whole episode had at least two positive results: the poems on nature and science by Goethe, who wisely settled for less than the original over-ambitious plan; and the splendid hexameter translation of *De rerum natura* by Karl Ludwig von Knebel, who abandoned his own project of a neo-Lucretian poem\(^{69}\) in order to restore the original to his German contemporaries.

---

\(^{69}\) On Knebel’s early project and his reasons for abandoning it, see his letter to Goethe of 2 February 1825, in *Briefwechsel zwischen Goethe und Knebel*, II, 362.