

DE RERUM NATURA: GREEK PHYSIS  
AND EPICUREAN PHYSIOLOGIA  
(LUCRETIVS 1.1-148)

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*De rerum natura*—On Nature, On the Nature of Things, On the Nature of the Universe, The Way Things Are: for the modern reader, Lucretius' poem begins with its title. For Lucretius' first reader, however, it is likely that the poem began with its beginning:

Aeneadum genetrix, hominum divumque voluptas.

Except for rasuras in O and Q, there is no evidence that antiquity recognized Lucretius' poem as the *De rerum natura*.<sup>1</sup> In a letter to his brother Quintus, Cicero speaks of *Lucreti poemata*, but says nothing further to suggest a title.<sup>2</sup> Curiously, in this same letter he writes of another philosophical poem of which only the title now survives, the *Empedoclea* of a Sallustius who is otherwise unknown. Ovid and the late grammarian Diomedes agree in speaking of *Lucreti carmina*, where Vitruvius and Lactantius agree in associating Lucretius' argument with the phrase *de rerum natura*.<sup>3</sup>

<sup>1</sup> For the evidence of the MSS for the title of Lucretius' poem, see Bailey, *T. Lucreti Cari De rerum natura libri sex* (Oxford 1947) 2.583. This is the text I have used throughout. Epicurus is cited from G. Arrighetti, *Epicuro Opere* (Turin 1960) and referred to as *Epicuro*, except for the three letters included in Diogenes Laertius 10, the *Kyriai Doxai* (= KD), and the *Gnomologium Vaticanum* (= SV).

<sup>2</sup> *Ad Q. fr.* 2.9.3. F. H. Sandbach has argued that by *poemata* Cicero was not referring to the entire *De rerum natura*, but to only a part of it—possibly the proem, *CR* 54 (1940) 75–76. U. Pizzani, however, has adduced evidence to suggest that Cicero's puzzling *poemata* can refer to the entire poem, *Il problema del testo e della composizione del De Rerum Natura di Lucrezio* (Rome 1959) 38–40.

<sup>3</sup> Ovid, *Amores* 1.15.23; Diomedes, *Gramm. Lat.* 1.482.20 (Keil); Vitruvius, *De arch.* 9, *praef.* 17; cf. 1.7: *de rerum natura, quae graece physiologia dicitur, philosophia explicat*; Lactantius, *Div. inst.* 2.12.4.

*De rerum natura* is the natural description of Lucretius' argument, since it is the seal Lucretius fixed upon the poem himself.<sup>4</sup> Thus, although the poem is announced as *De rerum natura* in none of the MSS, it proclaims itself as such (1.25), and by signaling its argument as *de rerum natura* it aligns itself directly with Empedocles, Epicurus, and the whole of early Greek physiology.<sup>5</sup> Unlike Ennius' *Epicharmus*, Cicero's *Aratea*, and Sallustius' *Empedoclea*, Lucretius' *De rerum natura* declares itself the continuation of a tradition, and not a Roman copy of any individual philosophy. It is not an *Epicurea*.

In Greek the title and investigation *περὶ φύσεως* had by the mid-first century B.C. a long established tradition, but just what its Latin equivalent might have suggested to a Roman reader unfamiliar with Greek physical speculation is difficult to determine. The phrase *de rerum natura* describes the writing of three shadowy contemporaries or near contemporaries of Lucretius. Catius, Egnatius, and Varro of Reate are all said to have written *de rerum natura*, and not baldly *de natura*—the obvious calque for *περὶ φύσεως*—and possibly it is the authority gained by Lucretius' phrase that fixed *de rerum natura* as the canonical description for any Latin treatise *περὶ φύσεως*.<sup>6</sup>

Even so, *natura* alone, or *natura* determined by *rerum*, could hardly have conveyed to a Roman reader what *physis* suggests in Greek, because it possessed then a range of significance which corresponded to only the most elementary and non-philosophical meanings of the word in Greek.<sup>7</sup> What compels notice is that Lucretius introduces the

<sup>4</sup> 1.25, 4.969–70, 5.335.

<sup>5</sup> Galen, *De elementis* 1.9, p. 487 (Kühn), states that all the "ancients" gave their works this title (quoted by Munro at 1.25). This opinion itself is an anachronism for most of the writers listed by Galen (cf. Kirk and Raven, *The Presocratic Philosophers* [Cambridge 1957] 101 note 1), although it was current in Lucretius' time.

<sup>6</sup> This is the conclusion of F. Skutsch for Egnatius, *RE* 5.2 (1905) 1993–94, although it is not absolutely compelling. For Varro of Reate and Catius, see K. Sallmann, *Archiv für Begriffsgeschichte* 7 (1962) 239–40.

<sup>7</sup> I. Fisher, "Le sens du titre *De Rerum Natura*," *Mélanges linguistiques* (Bucharest 1957) 17–21, argues that the term *natura* was not the equivalent of *physis* as it figured in the title *peri physeôs*, and notes (wrongly) that Lucretius first uses the phrase *de rerum natura* as it would have been familiar to his readers—"sur la naissance des choses" (19). In describing it as *de physica rerum origine vel effectu* the scholastic title for Lucretius' poem conveys some of the sense of *rerum natura* in 1.21 and 25. Comparable to this rare sense of *natura* as birth or origin is the *recens natura mundi* of 5.330–31, especially taken in connection with the *genitalis origo terrarum* of 5.324–25. What is by far the

concept of *physis/natura* not as it was most familiar in Latin, but as Latin was capable of making the concept of *physis* most readily intelligible. To state the matter in terms provided by Epicurus in his *Letter to Herodotus*, the word *natura* emerges into Lucretius' argument not as it was most common in Latin (κατὰ τὴν πλείστην φοράν),<sup>8</sup> but as it is returned to its original conception (τὸ πρῶτον ἐννόημα) of birth and genesis.<sup>9</sup>

In the matrix of the first 20 lines of Lucretius' invocation, *rerum natura* can have no other meaning. In its context it is the summation of all that has been said of Venus *genetrix*,

quae rerum naturam sola gubernas (1.21).

Without the compass of Greek, Lucretius' Roman reader is brought from the vividly apparent conception of *natura* as union, birth, and increase, which is the root sense of Greek *physis*,<sup>10</sup> to a larger conception which seems to derive as much from Presocratic thought as it does from the atomism of Epicurus. By the time Lucretius has launched

fullest account of the word *natura* in Latin neglects both passages in rejecting the possibility that *rerum natura* might reflect the primary sense of the word as birth or genesis; André Pellicer, *Natura: Étude sémantique et historique du mot latin* (Publications de la Faculté des lettres et sciences humaines de l'Université de Montpellier 27 [Paris 1966]) 377-78, cf. 42-45. What Pellicer fails to envisage is the possibility that Lucretius might have deliberately introduced *natura* as genesis as the first stage of his way to *physis*.

<sup>8</sup> *Ad Hdt.* 70.3-5, duplicated in Lucretius' *haec soliti sumus, ut par est, eventa vocare*, 1.458. On the same principle, compare *Ad Hdt.* 46.6 and Lucretius 4.30; Colotes' *In Lysin*, Crönert, *Kolotes und Menedemos* (Munich 1906) 165, col. 1 (II 267.5-8); and *Ad Hdt.* 67.2, 76.7.

<sup>9</sup> *Ad Hdt.* 38.1. Taking Epicurus' language in such a sense is abusive of his meaning, but very possibly illustrative of Lucretius' interpretation of his Greek.

<sup>10</sup> This meaning of *physis* (from φύω/φύεσθαι, cf. δέφικεν) is not so rare as Burnet, Ross, and Lovejoy would have it, although it does not survive a lexicographer's approach to the history of ideas, e.g. Lovejoy and Boas, "Some Meanings of Nature," in *Primitivism and Related Ideas in Antiquity* (Baltimore 1935) 447, AI. For Lucretius, who translates *gignetai* by *nasci* (*Ad Hdt.* 38.8-39.1 = 1.145-50, 159-60) and *apólolei* by *perire* (*Ad Hdt.* 39.1-2 = 1.215-18; cf. Plutarch, *Adv. Col.* 1116C [282 Us.] and Lucretius, 2.1010-12), *physis*, especially as he knew it from the poetry of Empedocles, came alive in its root meaning of birth, genesis, increase. Cf. Empedocles B8 and Plutarch's masterful commentary on *physis* as *genesis* in the whole of Empedocles' poetry, *Adv. Col.* 1111F-13F, which preserves for us fragments B9, 10, and 11 of Diels. For this conception of *physis* it is significant that in the *Katharmoi*, *Physo* is opposed to *Phthimenê*, B123.1. Some of the evidence for a conception of *physis* as *genesis* comes from Xenophanes, VS B29, Plato, *Laws* 892c, Aristotle, *Metaphysics* Δ 1014B16, and *Physics* 2.1.193B12, for which cf. Zeno, SVF I fr. 171 (= DL 7.156).

into the physical argument of his poem proper, his reader has been given a good notion of what *physis* and *physiologia* represent in Greek and what they will come to mean in Latin. The *rerum natura* of 1.21, vividly revealed in its root sense of genesis, is the road to the larger and more complete conception of *physis* reached by the outset of Lucretius' philosophical arguments proper. The language of Aristotle's *Physics* describes the movement of Lucretius' poem better than any other: ἡ φύσις ἡ λεγομένη ὡς γένεσις ὁδὸς ἐστὶν εἰς φύσιν (2.1.193B12).

When, in line 25, Lucretius repeats the phrase *rerum natura* to describe the argument of his poem, his commentators lay out compendiously what they take him to mean by this phrase generally. By anticipating, as Lucretius' first reader could not, the range of meanings given *res*, *natura*, and *rerum natura* in the poem, Munro, Bailey, and others lose sight of Lucretius' manner of introducing a theme alien to Latin poetry.<sup>11</sup>

*Natura* first emerges into the *De rerum natura* in its primitive and largely dormant sense of birth and genesis in an evocation of the invisible power of Venus *genetrix* whose empire is *rerum natura*—immediately the “birth of things.” And Lucretius' invocation is pregnant with terms revealing *physis/natura* in its primitive sense of coming into being. The metaphor of Greek *physis* has become alive in Lucretius' *natura*, and it permeates its context. *Exortum* (1.5) and *exoritur* (1.22) represent in fact common Latin equivalents for *genesis* and *gignetai*.<sup>12</sup> In Lucretius' invocation, as in more of Greek thought

<sup>11</sup> Sallmann's description of Lucretius' situation is admirable: “In this regard it should be kept in mind that Epicurus' conception of *physis* belongs to the last stage of a long philosophical tradition, where it was Lucretius' task to form his terminology out of the very beginnings of Roman literature” (above, note 6, p. 250). Unaccountably, he begins his study of this concept with a chapter on *Die Natur als Atomität* (144–66). It is well to remember that where Epicurus found it necessary to prove the impossibility of a visible atom, Lucretius felt the need to demonstrate the very existence of invisible bodies.

<sup>12</sup> This equivalence is well documented for Cicero by Pellicer (above, note 7) 370 note 2. *Oras* taken in close connection with *exoriri* (cf. *primordia*, *ordia prima*, *exordia*) might be added to P. Friedländer's list of examples of Lucretius' “atomology,” *AJP* 62 (1941) 16–34. The bond between *oras* and *exoriri* is especially apt because, by Lucretius' conception of genesis, things (*res*) emerge by accretion from the darkness of the *primordia caeca*—*dias in luminis oras*. The phrase is Ennian (perhaps deriving from Empedocles), but the thought is Lucretian. Cf. 1.170, 179–80, 227—in *lumina vitae*.

than is generally granted, *physis* or *natura* is conceived of as *genesis*. Its root sense is first suggested in *Aeneadum genetrix* (I.1), then in *genus* (I.4), *genitabilis aura favoni* (I.11), *generatim*, and finally in *quae rerum naturam sola gubernas* (I.21).

Lucretius has evoked the spring of the cycle of union, birth, and growth, and invoked Venus as the unseen power behind the beginning of the cycle. In a metaphor reminiscent of Parmenides, of Empedocles, and even of Cleanthes in his *Hymn to Zeus*, Venus is said to *govern* the events of genesis.<sup>13</sup> The metaphor is wholly alien to Epicurus, for whom *physis* bears only the faintest traces of *Physis*.<sup>14</sup>

It is in the philosophical poetry of Empedocles that Lucretius discovered an awareness of *physis* as *genesis*, and it is the language of Empedocles that pulls into their proper focus many of the terms of Lucretius' invocation to Venus. Lucretius begins where for Empedocles men both begin and end: with *physis* as *genesis*; for *physis* is the name they wrongly attach to birth or concretion, and death is the name they give dissolution.<sup>15</sup> *Physis* is the proper name for birth if birth is properly conceived as a *mixis*.<sup>16</sup> The name Empedocles gives

<sup>13</sup> Parmenides VS 28 B8.3-6; for Empedocles, see the discussion of W. Kranz, *Hermes* 96 (1943) 87-88; in Cleanthes' *Hymn to Zeus* the verb occurs twice, SVF I.121.35 and 123.1. Elsewhere in Lucretius the government of nature is evoked only as it replaces that attributed to the gods, 5.77 and cf. 5.1236-40.

<sup>14</sup> In what survives of Epicurus there are only very faint traces of the personification of *Physis*; in Lucretius, *Natura* has taken the reins from the hands of the gods, and governs her domain by strict law. Compare the expressions of 5.73-90 with 2.1090-1104. Heidel's account of the Presocratics and their transfer of the rule or government of the world from the gods to *physis* serves well for Lucretius, *Proceedings of the American Academy of Arts and Sciences* 45 (1910) 94. The only traces of *Physis* in Epicurus are visible as *physis* refers to human nature; *Ad Men.* 129.9, 133.3; *KD* xv, xxv; *SV* 21, 25, 37. Epicurus does, however, speak of the commands of the visible world (*Ad Pyth.* 86.9), and the voice of the flesh (*SV* 33, cf. Lucretius 2.17). In all these expressions he avoids the word *physis*. By contrast, compare Lucretius, 3.931-62.

<sup>15</sup> VS B8. Comparable, as Plutarch saw, are B9.4, 11.2, and 15. Thus both *physis* and *thanatos* are properly *eponomata* for the *mixis* and *diallaxis* of Empedocles' roots. Cf. Anaxagoras, VS 59 B17, which seems a version of the thought of Empedocles. Against Colotes, who seems to have interpreted *physis* rightly as birth (for which see Westmann, *Plutarch gegen Kolotes*, *Acta Philosophica Fennica* 7 [Helsingfors 1955] 57), Plutarch attempts to vindicate Empedocles' meaning by interpreting *physis* as *genesis*, *Adv. Col.* 1112A; cf. [Aristotle] *MXG*, 975B7 (= VS 1.262.6).

<sup>16</sup> Even so, Empedocles speaks of compounds *growing* together and *growing* apart, as well as mixing and separating. B17.1-13 (*διαφύεσθαι*) and 26.9; cf. A72; B26.7 and B95 (*συμφύεσθαι*).

this process is mixture and not *physis*, and the empire he sees behind it is Aphrodite whose work it is to bring together, to join, and to fashion parts into wholes.<sup>17</sup> The shapes and surfaces of the world as it has come into being about us are all the work of Aphrodite (*VS* 31 B71.4):

ὅσα νῦν γεγάασι συναρμοσθέντ' Ἀφροδίτῃ.

In both Lucretius and Empedocles, a sense of etymology and an awareness of the metaphors (or models) revealed in etymology is a mode of understanding. A thing is as it has come into being. In Lucretius, who encounters the special character of Empedocles' language with the keen awareness of a man for whom Greek is a foreign language and for whom his own language has implicit in it the model of atomic processes, etymology (or "atomology" as Paul Friedländer has called it) is a mode of thought. It is Lucretius' exquisite sense of the metaphors of Empedocles' poetry that sharpens the focus of some of the terms of the invocation to Venus.

Of these *concelebras* (1.4) is the first encountered, and it is followed directly by *concupitur* (1.5). What is it that Venus does? Does she fill land and sea "with her presence" (Bailey), or is it by her invisible empire that "les terres fertiles en moissons se peuplent de créatures" (Ernout)? All of these renderings are vaguely pleasing, yet they are all out of focus. Taken in their root sense (τὸ πρῶτον ἐννόημα), the verbs *concelebras* and *concupitur* denote a gathering together<sup>18</sup> made possible by the calming influence of Venus who settles the winter seas and fosters (1.11) the reopening of life on earth. By her influence she compels the animal world to gather together across the barriers which have separated kind from kind; she has filled kind with desire or *longing* for kind (1.20):

efficis ut *cupide* generatim saecula propagent.

<sup>17</sup> For the many craft metaphors which characterize Aphrodite's work, see F. Solmsen, *Journal of the History of Ideas* 24 (1963) 476-78.

<sup>18</sup> For *concelebras* cf. 2.342-46. "You who make the land and seas abound" is a somewhat better version since it does not have implicit in it a doctrine of *res ex nihilo*. Venus attracts kind to kind, calms the winter seas, makes commerce possible; cf. 5.848, 962. This stage of things must necessarily precede conception, for which follow the progress of 2.544-46, and 1.555, 4.1269, 5.548.

*Cupido* in Latin, like *πόθος* in Greek, is desire, but often it is desire for something absent or distant.<sup>19</sup> The world is full of desires, but the passion inspired by Aphrodite is *pothos*, the longing of kind for kind, of *saecla* for *saecla*—*usque adeo cupide in Veneris compagibus haerent* (4.1113):

ἐν δὲ Κότῳι διάμορφα καὶ ἄνδιχα πάντα πέλονται,  
οὐν δ' ἔβη ἐν Φιλότητι καὶ ἀλλήλοισι ποθεῖται.<sup>20</sup>

Like *concelebras* and *concupitur*, *propagent* carries a metaphor which is brought into focus by its etymology, which is apparent in the Greek *πηγνύναι*, to “peg.”<sup>21</sup> Empedocles’ Aphrodite is the joiner and harmonizer; she fashions with the rivets of love (B87), just as Lucretius fashions words together into rhythmic verse (1.25). In a like manner, the Venus of Lucretius’ proem brings together and joins or causes to *propagate* animal kind. This is the history of *physis* or *genesis* as it can be written from Lucretius’ invocation to Venus: gathering, union, concretion, and by increase, birth.

concupitur visitque exortum lumina solis (1.5).

The events of the evocation of spring (1.1–25) are, in their carefully defined stages, exactly paralleled in Lucretius’ first elaboration of his argument *de rerum natura*:

rerum primordia pandam  
unde omnis natura creet res, auctet, alitque.<sup>22</sup>

<sup>19</sup> Plato, *Cratylus* 420A, and in general, V. Ehrenberg, “Pothos,” in *Polis und Imperium* (Zurich 1965) 458–65. In this regard, it is significant that in Lucretius *cupido* can describe at once animal instinct (1.16 and 20), human lust (the *dura cupido* of 4.1090), and the natural impulse or tendency of matter (2.199 and the *cuppedo medii* of 1.1082). The connection between Empedocles’ *pothos* and Lucretius’ *cupido* seems to be guaranteed by the passages brought together in the body of the text, as well as in the doctrine of human desire as it is fed by the *simulacra* of the object of desire. Cf. 4.1061–62, the *umorem collectum* of 4.1065, the *collecta cupido* of 4.1115, and the *pothos* of Empedocles B64.

<sup>20</sup> B21.8, and compare B110.9, 22.5.

<sup>21</sup> In the poem of Empedocles, *πηγνύναι* is a verb which frequently describes the work of Venus, B75, 86 (cf. 87), and of compounding generally, B15.4, 56, 107.1; her mechanical means to such unions are rivets, bindings, and glue, B33, 34, 86, and 87. The root sense of Lucretius’ *propagent* (1.20) emerges most clearly in 5.849–50, and is possibly visible in the common Lucretian expression *quo pacto*.

<sup>22</sup> For the Greek conception behind Lucretius’ *auctet alitque*, see F. Solmsen, *AJP* 74 (1953) 46, and note 47.

Here for the first time the spring of genesis and Venus is seen as only a partial view of things and only a stage in the cycle of nature. Empedocles' version of *physis* is a double tale; in Lucretius' version of *Natura*, Venus is supplanted by *Natura* as the cycle (cf. 5.731-50) moves from genesis to dissolution:

quoque eadem rursum perempta natura resolvat (1.57).

There is perhaps no better way of making the special character of Lucretius' language plain than to contrast it with that of one of his unacknowledged predecessors in Latin philosophical poetry. The lines come from Pacuvius' *Chryses*, ultimately from Euripides' *Chrysippus* (and the thought of Anaxagoras).<sup>23</sup>

id quod nostri caelum memorant, Grai perhibent aethera:  
quidquid est hoc, omnia *animat format alit auget creat*  
*sepelit recepit* in sese omnia, omniumque idem est pater  
indidemque eadem aequae *oriuntur* de integro atque *occidunt*.

In the progress of the events of Lucretius' invocation, his reader contemplates the events of atomic concretion writ large. The mechanism of Empedocles' *mixis*, so clearly conveyed in the metaphors of carpentry and joining, is in no wise alien to Epicurus. Lucretius has reproduced the mechanism of these events in the root sense of the verbs which carry on the movement of the invocation to Venus. In both Empedocles and Epicurus, *physis* or *genesis* is conceived of as *σύνκρισις* or concretion. Lucretius' verbs serve his philosophy in as much as they reveal in their etymology the models of how things (*res*) come into being. But in stark contrast to Empedocles and Lucretius, behind the events of *physis* or *genesis*, Epicurus saw no *Physis*, no Venus, and no Aphrodite—only perhaps the *exiguum clinamen*. As Simplicius knew, for the atomists there is no genesis without motion (306 Us.).

As he progresses into his argument, Lucretius restates his theme in somewhat larger terms, and speaks for the first time of the *vera ratio* (1.51) to which he means to introduce his reader. New in the philosophical program announced in lines 54-61 is the argument *de summa*

<sup>23</sup> The passage from Pacuvius is reproduced by Nauck, *Tragicorum Graecorum Fragmenta*<sup>2</sup> (Leipzig 1889), with Euripides, fr. 839 and the testimony of Vitruvius (*De arch.* 8 *praef.* 1) which takes the doctrine back to Anaxagoras. These and other similar texts are discussed by L. Alfonsi in *Hermes* 96 (1968) 118-21.



*caeli ratione deumque* (1.54), and the shift in emphasis from the broad vision of the spring of the cycle of nature to the material out of which *Natura* (and no longer *Venus*) creates and sustains all things and into which she resolves them. *It ver et Venus* (5.737). *Natura*, like *Venus*, is represented as an agent, and the stuff out of which she brings things into being Lucretius names *materies* (1.58), *genitalia corpora* (1.58), and *semina rerum* (1.59). All these terms keep close to the primitive meaning of *physis* as birth and increase and are immediately intelligible in their context. *Primordia* (1.55) and *corpora prima* (1.61) are freer from the associations of genesis and are Lucretius' more neutral equivalents for the ἀρχαί of Greek physics. Lucretius takes pains to stamp these terms as bearing a special sense (*quae nos appellare suēmus*, 1.58–60), but he goes further to suggest that the two terms not immediately comprehensible from the context of the poem are appropriate to what they describe (1.60–61):

suēmus et haec eadem usurpare  
corpora prima, quod ex illis sunt omnia primis.

After setting out the philosophical program of the *De rerum natura*, Lucretius leaves his argument first to stress the achievement of its founder (1.62–79), and then to urge its necessity (1.80–101, 102–126, 127). As Ludwig Edelstein argued with a daring which carried him beyond the lambent walls of tradition and back to the context of the poem and the history of Greek thought, the *Graius homo* of 1.66 need not be Epicurus. In the history of Greek thought “knowledge of nature was achieved through a long line of inspired thinkers, the Presocratics and Epicurus, the Epicurean system being, so to say, the entelechy of Presocratic ideas.”<sup>24</sup> The physiologist of the poem, like his object in *physis*, is simply Greek. One will later recognize him as Epicurus, but one does not and cannot know this from Lucretius' poem. The real difficulty with this identification is that it is premature and neglects Lucretius' manner of introducing his argument and its necessity. Thus, in the final characterization of his philosophical matter, Lucretius speaks of the “dark discoveries of the Greeks” (*Graiorum obscura reperta*, 1.136).

But where Lucretius' introduction of *physis* is an introduction to

<sup>24</sup> “Primum Graius homo,” *TAPA* 71 (1940) 85.

Greek *physis*, his introduction to *physiologia* is distinctively Epicurean. The ethical impulse to physiology emerges dramatically into the poem as the threat of religion is exposed first in its primitive and Greek setting (1.62-101), and then as it is translated into the Roman context of Ennius' poetry (1.102-26). Thus, lines 62-79 of the proem give the historical beginnings of Greek physiology, while their sequel in lines 80-126 gives the ethical necessity for mastering an understanding of nature.

Ennius represents for Lucretius both a forerunner in Latin philosophical poetry and a dangerous rival to the truth.<sup>25</sup> It is the threat of Ennius' doctrine of the afterlife with its basis in dream visions that Lucretius meets head-on by a reformulation of the argument of his poem (1.127-35). In direct contradiction to the *rerum naturam* (1.126) which the spectre of Homer expounded to Ennius in his dream vision, Lucretius states his argument for a second time. In this restatement his philosophical program is refined and sharpened by the pressure of the ethical demands made upon it; it has taken on a fuller scope with the demonstration of its necessity. Where a comprehensive account of the heavens and the gods had been announced before (1.54; cf. *Ad Hdt.* 79.5), both gods and celestial phenomena are included in the rubric *superis de rebus* (1.127; cf. 1.62-65), which is Latin for *περὶ τῶν μετεώρων* (cf. *KD* xi). What is especially apparent in this "second syllabus" is a shift in emphasis from a concern for the material for generation to a concern for the laws of heaven and the human soul. Accordingly, the stress is placed on the discovery of causes (1.127-35):

quapropter bene cum superis de rebus habenda  
nobis est ratio, solis lunaeque meatus  
qua fiant ratione, et qua vi quaeque gerantur

<sup>25</sup> Lucretius' view of his predecessor's achievement in physiology can be gathered from a confrontation of the first few fragments of the *Annales* with Lucretius' presentation of Ennius' vision (1.112-26). Ennius' vision is a dream vision (frs. v-vii Vahlen, and fr. 1 of the *Epicharmus*), which is sufficient to explain in part Lucretius' attack on the vanity of dreams: *tibi iam fingere possunt somnia quae vitae rationes vertere possint* (1.104-5). Further compare fr. iv of the *Annales* with Lucretius 1.119; fr. xii with the alternatives Lucretius sets out in 1.112-16. The adverb *divinitus* in 1.116 reproduces the *divinitus* of the *Annales*, p. 5.10. The antagonism between the teaching of the two poets is apparent in the very fact of Lucretius' placement of his "second syllabus" in direct contradiction to the *rerum natura* of Ennius.

in terris, tunc cum primis *ratione sagaci*  
*unde* anima atque animi *constet natura* videndum  
 et quae res nobis vigilantibus obvia mentis  
 terrificet morbo adfectis somnoque sepultis,  
 cernere uti videamur eos audireque coram,  
 morte obita quorum tellus amplectitur ossa.

New is the argument on the origin or nature of the soul<sup>26</sup> and the explanation of the *simulacra* which seem to guarantee a belief in an afterlife and divine empire over the soul in death. The gods and the phenomena of the heavens, the soul and the dream visions which seem to guarantee it an afterlife: these are the most urgent problems of Epicurean physiology, because they are the most urgent terrors of mankind. As far as Epicurus was concerned, if the violence of the heavens and the thought of death inspired no terror, there would be no need of physiology (*KD* xi).

It is clear that by the "nature" of the soul, here conceived of as both *anima* and *animus*, Lucretius understands *natura* in its primitive sense of birth or origin, and sees the problem as posed in two alternatives: either the soul is born and is thus mortal, or it enters the body at birth and is thus preexistent (cf. Cicero, *Tusc.* 1.18). In the terms of these alternatives, the soul's nature can be qualified as *nata*, which in the course of the poem will come to equal *φθαρτή*;<sup>27</sup> this is the alternative urged with such passionate ardor in Book 3 of the *De rerum natura*. It challenges the disquieting doctrine of the soul which is that of Ennius: in the language of Book 3 it teaches that the soul is something immortal and that it enters the body at birth (3.670-71):

immortalis natura animai  
 constat et in corpus nascentibus insinuat.

In the *De rerum natura* the adjective *immortalis* properly describes only the atoms, the void, the universe which is their sum, the gods, and, as far as the soul is concerned, death (3.869).

<sup>26</sup> *Animai* in 1.112, but in anticipation of the later development of the concept of the soul, *anima/animus* in 1.131; cf. 3.35-36, 417-24.

<sup>27</sup> In 5.242-43 *mortalia* and *nativa* are equated. Comparable are expressions such as *corpore nativo* (5.241) and *nativos animantibus et mortalibus . . . animos* (3.417). 5.60 defines any compound as mortal.

Conscious of the poverty of his native speech, Lucretius has introduced his theme so as to enrich Latin with an exposition of the Greek tradition of *physis* and the Epicurean conception of *physiologia*. *Natura* is first introduced in terms of generation, which is the high road to the larger conception of *Natura* which brings things or compounds (*res*) into being, sustains them, and reduces them to their first beginnings. *Natura* is also introduced as the visible and circumscribed world of our experience, the frame of this world (1.71; cf. 1.321). As it describes the gods (1.44) and the human soul, *natura* suggests the constitution of that which is immortal and that which is mortal. Although Lucretius does not include the gods in his definition of those three things which can be properly regarded as eternal (3.806-18), the soul is obviously the kind of thing which can be dissolved by the blows of matter. Its *natura* is that it is *nata*, and thus mortal. *Omnis per se divum natura* (1.44) translates Epicurus' *Tò μακάριον καὶ ἀφθαρτον*<sup>28</sup> and more nearly approaches Epicurus' usage than any of the other terms of the poem.

But the understanding of the physical world and its invariable processes is not the enterprise of *theoria*, abstract and detached. Nature as it is represented in myth (the *fama deum* of 1.68) inspires terrors which only a clear grasp of its deep fixed laws can dispel. This is the proper and the only function of Epicurean physiology, and to convey this to his Roman reader, Lucretius directly opposes Ennius' account of the afterlife with his own account of the nature of things. It is the threat of religion to man's peace of mind which impels him to physiology and provokes those questions the Epicurean is compelled to ask of nature. It is the movement of the poem from a presentation of Greek *physis* to a presentation of the ethical necessity of Epicurean physiology which explains Lucretius' "double syllabus."

It is this system of reason and reasoning which is announced in the *vera ratio* (1.51) Lucretius promises to put before his reader. It is a *ratio* which might seem impious in its beginnings (*elementa*, 1.81; cf. 1.50), but one which will steel the mind against the terrors of religion itself (1.110, 128). *Ratio* as it first appears in the poem might be

<sup>28</sup> KD 1 (= SV 1). Epicurus' more common designation of the divine is either *theia physis* (*Ad Pyth.* 113.11 and 115.11, SV 24) or *aphthartos kai makaria physis* (*Ad Hdt.* 78.7, *Epicuro* 65.35).

translated as the "true account" (1.50), and then as the "comprehensive account" of the gods and heaven (1.54, the *κυριώταται αἰτίαι* of *Ad Hdt.* 79.5). Here the placement of *summa caeli ratio deumque* before *rerum primordia* reflects precisely what is stressed by Epicurus. The impulse to physiology is not *theoria*, abstract and indifferent, but the moral necessity of mastering fear, anxiety, and all other forms of *ταραχή*. Accordingly, what physiology—Epicurean physiology—affords is not an abstract account of *physis*, the natural world and its processes, but a *ratio* and *facultas restandi* (1.110; cf. 3.45).<sup>29</sup>

Thus, while the concept of nature which Lucretius develops in his proem is not distinctively Epicurean, his statement of the impulse to physiology is explained by premises which are exclusively Epicurean (1.146–48):

hunc igitur terrorem animi tenebrasque necessest  
non radii solis neque lucida tela diei  
discutiant, sed naturae species ratioque.

These lines are repeated thrice again in the poem (2.59–61, 3.91–93, 6.39–41), and on each occasion they provide, as they do here, the bridge from the ethical premises of physiology to physiology itself. In Lucretius' formulation which introduces the logical foundations of his enterprise, *natura* and *ratio* come together to express what Epicurus meant by *physiologia*. Lucretius does not translate the Greek word by Cicero's calque *naturae ratio*; rather he renders the concept by *naturae species ratioque*.<sup>30</sup>

Yet *natura* as it is revealed by *ratio* lies furthest from the sensuous world of the proem and its evocation of spring in the poet's invocation of Venus. Sunk deep below the *species verna diei* and the *suavis daedala tellus* of the proem is a world barren of the sensuous qualities

<sup>29</sup> For the ethical premises of the entire poem and for *physiologia* itself, cf. *Ad Hdt.* 76.8–82.9; for the doctrine of divinity (1.44–49), cf. 76.11–77.11, 78.6–8, and *KD* 1 (= *SV* 1); for the fear produced by the *simulacra* of the dead and absent, cf. *SV* 24 and Epicurus' letter to his mother (*Epicuro* 65). Finally, for the function of physiology itself, cf. *Ad Hdt.* 78, *KD* xi, xii (= *SV* 49).

<sup>30</sup> *Naturae ratio* is Cicero's calque for *physiologia*, *Div.* 1.90, 2.37, and *ND* 1.20. But this is not Lucretius' formula, although Reiley (*Studies in the Philosophical Terminology of Lucretius and Cicero* [New York 1909] 23), Traglia (*De lucretiano sermone ad philosophiam pertinente* [Rome 1947] 56 note 332), and Ernout (*Lucrèce De Rerum Natura Commentaire* [Paris 1962] *ad. loc.*) interpret it as such.

of this; a world deprived of all sound, smell, taste, and color. The ultimate truths of the Epicurean *ratio* are revealed in the apocalypse which closes Book 1. Here Lucretius contemplates *nil . . . desertum praeter spatium et primordia caeca* (1.1109-10). And again, in the opening to Book 3 (13-16):

nam simul ac ratio tua coepit vociferari  
naturam rerum, divina mente coorta,  
diffugiunt animi terrores, moenia mundi  
discedunt, totum video per inane geri res.

The starkness and *horror* (3.29) of the *ultima naturai* (1.1116) do not come into sight in the poem. The remoteness of the *rerum primordia* of Lucretius' "first syllabus" is suggested only in the final characterization of his theme and its difficulties (1.136-45):

nec me animi fallit Graiorum obscura reperta  
difficile inlustrare Latinis versibus esse,  
multa novis verbis praesertim cum sit agendum  
propter egestatem linguae et rerum novitatem;  
sed tua me virtus tamen et sperata voluptas  
suavis amicitiae quemvis efferre laborem  
suadet et inducit noctes vigilare serenas  
quaerentem dictis quibus et quo carmine demum  
clara tuae possim praepandere lumina menti,  
res quibus occultas penitus convisere possis.

Lucretius' theme and the difficulties inherent in it are finally characterized by the phrase *Graiorum obscura reperta* (1.136)—a phrase variously translated, but with little sensitivity to the difficulties it involves.<sup>31</sup> Ernout's "ces obscures découvertes des Grecs" is quite literal, but difficult if taken literally. If Lucretius regarded his argument and its Greek inventors as obscure, they would share in the vice of the oracularly cryptic Heraclitus, who earns Lucretius' contempt as *clarus ob*

<sup>31</sup> Büchner, anxious to reconstruct the Entstehungsgeschichte of the poem, is one of the few critics to question the meaning of *obscura* in 1.136. In it he detects a slightly derogatory tone, and points to 3.1-2 to show that a change in attitude has come about, *Beobachtungen über Vers und Gedankengängen bei Lukrez* (*Hermes Einzelschriften* 1, 1936) 111-13. Barwick, *Hermes* 58 (1923) 152 note 2, interprets both *occultae res* and *obscura reperta* as "dunkler schwerverständlicher Stoff."

*obscuram linguam* (1.639). The difficulty is compounded if one insists in reading the poem backwards and taking the *Graius homo* of the proem as Epicurus. The *Graius homo* might well be Epicurus, but one cannot know this from the proem.<sup>32</sup> In any case, it is extremely doubtful that Lucretius would regard the writings of Epicurus in particular as *obscura*, since it is precisely the quality of clarity (*σαφήνεια*) that his master insisted upon (3.1-2):

E tenebris tantis tam clarum extollere lumen  
qui primus potuisti inlustrans commoda vitae. . . .

The non-committal "dark discoveries" of Munro (adopted by Bailey) is a better translation of *obscura* in that it makes possible another interpretation by its deliberate ambiguity. This interpretation is that Lucretius' *Graiorum obscura reperta* refers to that class of things which Epicurus and Greek physiology generally noted as *τὰ ἄδηλα*. There are two pieces of evidence which show that under Lucretius' *Graiorum obscura reperta* lies *τὰ ἄδηλα* of Greek physical speculation. The first is the language of Lucretius, the second that of Cicero.

In its context the antithesis of *obscura* and *inlustrare* is followed and paralleled by another antithesis—*res occultas* and *penitus convisere* (1.145). *Convisere* is a rare verb in Latin; it occurs twice again in the *De rerum natura*.<sup>33</sup> Taken with *res occultas* it reproduces the Greek of the *Letter to Herodotus* (*συνορᾶν ἤδη περὶ τῶν ἀδύλων*), which Lucretius' proem has here come to parallel.<sup>34</sup> The second piece of evidence for sharpening the focus of *obscura* by bringing it into line with the special force

<sup>32</sup> The consequences of the simple and surface fact that Lucretius' proem is an *introduction* to Epicureanism are subtly drawn out by Leo Strauss in his *A Note on Lucretius*, in *Natur und Geschichte: Kark Löwith zum 70. Geburtstag* (Stuttgart 1968) 322-31 (now reprinted in *Liberalism Ancient and Modern* [New York 1968] 76-85).

<sup>33</sup> Cf. 2.357 and Lucretius' simile likening the quest of physiology with the tracking of hounds, 1.402-9. By this conception the *sêmeia* of Epicurean physiology become the *vestigia* of Lucretius' investigation *εἰς ἔχθος τοῦ ἀδύλου*, for which like expressions can be found in the Greek of *Ad Pyth.* 96.2, and Philodemus, *On Methods of Interference* (ed. P. H. and E. A. De Lacy [Philadelphia 1941]) xxi 20, xxix 2.

<sup>34</sup> Both Lucretius' proem and the *Letter to Herodotus* agree in moving from the difficulties of the task of physiology to the first of Epicurus' major propositions or *stoicheiômata* (*Ad Hdt.* 38.8-39.1 = 1.145-50, 159-60).

of τὰ ἄδηλα in Greek comes from Cicero, who describes Greek physics (*physikê*) as *naturae obscuritas*.<sup>35</sup>

The *ultima naturai* of Epicurus' *ratio* are remote from the sensuous world of the proem, yet for Lucretius and Epicurus the ultimate truth does not hide in the deep,<sup>36</sup> nor is it the way of *physis* to conceal herself (cf. Heraclitus, *VS* 22 B123). Binding the sensuous world with that reached by reason is what Epicurus called the *analogy* and *sympathy* between phenomena, the senses and the unseen (ἀόρατα).<sup>37</sup> Thus, where Lucretius' *Graiorum obscura reperta* can be taken to refer generally to the *reperta obscurorum* of the physiologists, his formula *naturae species ratioque* can best be taken to describe physiology as it was conceived of by Epicurus.

*Cuius* (1.149) demonstrates that for Lucretius *naturae species ratioque* cohere in one close-knit concept which cannot be broken down into *theôria* (*species*) and *physiologia* (*ratio*).<sup>38</sup> Epicurus does in fact speak of ἡ περὶ φύσεως θεωρία,<sup>39</sup> but by this he means speculation guided by the logical premises of his physics. In Lucretius, as in Latin generally, *species* has the force of outward appearance (except as it translates *idea*). Bailey, who understands the phrase somewhat as I would, translates "the outer view and inner law of nature." A more accurate translation might be "the look and law of nature." The

<sup>35</sup> To my knowledge it has not been noted in connection with this passage in Lucretius that the noun *obscuritas* bears a technical sense which connects it with the physics of Greek philosophy, that is, with the inquiry into the invisible structure of the visible world. In Cicero's *De oratore* (1.68) Greek physics is introduced within the tripartite division of philosophy as *naturae obscuritas*; cf. *Fin.* 5.51, *Acad.* 1.19 (with Reid's comments), and Augustine's characterization of the Presocratics, *Civ. Dei* 2.7. Kleve, *SO* 38 (1963) 29–31, is right in connecting the *occultae res* of 1.145 with the force of *ta adêla* in Greek; the special sense of *obscura reperta* also comes into focus when aligned with this term.

<sup>36</sup> In contrast to the notorious dictum of Democritus, *VS* 68 B117 (=DL 9.72). Cf. P. Natorp, *Forschungen zur Geschichte des Erkenntnisproblems im Altertum* (Berlin 1884) 209–34.

<sup>37</sup> *Epicuro* 127.10–15; cf. *Adv. Col.* 1124B, and below, note 40.

<sup>38</sup> This separation is made in most of the commentaries (most recently by U. Pizzani, *Lucreti De Rerum Natura* [Rome 1960] 155), but it has no more authority than an educated guess. I entirely agree with Bailey (*ad. loc.*) that here "the idea is one in Lucretius' mind."

<sup>39</sup> *Ad Hdt.* 35.7 (in roughly the same context as Lucretius). In 59.7 *theôria* and *logos* are joined, but not as they are in Lucretius, where *species* cannot be interpreted primarily as speculation. By contrast, Cicero's version of *theôria* is *naturae contemplatio*, *Acad.* 2.127; cf. *ND* 1.50.



point at issue here is that for Lucretius, as for Epicurus, such a formulation is possible, given the source of all knowledge in the experience of the senses. Nature is full of voices, commands, and instruction. Very possibly Lucretius' *species* reflects the *ᾠψις* of Anaxagoras' *ᾠψις τῶν ἀδήλων τὰ φαινόμενα*, but the principle itself was a fundamental tenet of the more pragmatic of the physicists.<sup>40</sup>

From the logical and poetical development of this principle in the *De rerum natura*, it is clear that Lucretius has arrived at the perfect expression of Epicurean physiology, whose unshakable foundation and step course is the clear evidence of our senses: *πάντων κρηπὶς καὶ θεμέλιος ἡ ἐνάργεια* (247 Us.). Thus, in establishing the theoretical truths concerning that class of things which Epicurus marked off as *ta adêla*, it is possible for Lucretius to speak of the compulsion of nature and true reasoning as if they were one and the same: *sed vera tamen ratio naturaue rerum cogit* (1.498-99). Here, as in 1.149, the world of the senses and the world which is accessible only through reason coincide. Elsewhere in the *De rerum natura* reason and the visible are seen as standing widely apart,<sup>41</sup> but in Lucretius' exposition of his argument, they telescope into a single concept to express the Epicurean view of physiology.

<sup>40</sup> For the Epicurean versions of Anaxagoras' dictum, see 263 Us., DL 10.32.7, and Philodemus vii 8, xv 25, and compare xxvii 30 and *passim*. A thorough study of the principle involved in Anaxagoras' dictum has been made by H. Diller, *Hermes* 67 (1933) 14-42.

<sup>41</sup> 2.1023-47, 1050-51, 3.273, 4.385, 796 (cf. *Ad Hdt.* 47); but contrast 5.335.

This paper is an expanded version of a chapter of my dissertation on *Lucretius' Translation of Greek Philosophy*, Seattle 1967 (Microfilm Order No. 67-14, 162), and its end is the proper place to thank Leo Strauss for turning me to Lucretius in a memorable summer seminar, Professor John B. McDiarmid for his help with the Presocratics, and Professor William Grummel who directed the dissertation.