TITI LUCRETI CARI
DE RERUM NATURA
LIBER I
T. Lucreti Cari

De Rerum Natura

Liber Primus

Edited

With Introduction, Notes and Index

by

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Cambridge:
At the University Press
1962
PREFACE

A NEW EDITION of the First Book of Lucretius cannot, I hope, be thought superfluous. Forty-nine years have passed since the date of Munro's third edition; and though the text of the poem remains substantially as he left it, a good deal has been done since then for the interpretation, and the best part of this is not easily accessible to the English reader.

The First Book is one of the finest in the poem, and it is also one of the hardest and needs much explanation. In order to keep my book within moderate compass, I have restricted illustration, even from the other books of Lucretius, within narrow limits; and I have seldom noticed readings or explanations which I believed to be wrong. But I have tried to leave no difficulty undiscussed.

In the Introduction I have spoken of Lucretius and his poem, of his chief manuscripts, and of some of his editors. In the last section I have only alluded to Lachmann and Munro, and have said more of Bernays and Giussani. In the Text some typographical devices have been used, in order to make the course of the argument clearer. In the Notes there are few lines, I fear, that have escaped comment; but I have tried to write no more than was necessary on each.

I gratefully acknowledge the assistance of others. Mr W. T. Vesey, Fellow of Gonville and Caius College, read all the Notes in manuscript and discussed with me the points on which we differed. Not seldom I was
persuaded to change my opinion: where I could not follow him, I feel that I am quite likely to be wrong. The Notes were read again in proof by P. W. Duff, Scholar of Trinity College, Cambridge, who detected some misprints and inaccuracies and also corrected some mistakes due to my ignorance of mathematics and physics.

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October 21, 1922.
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INTRODUCTION

I

T. LUCRETIUS CARUS

The poem of Lucretius is a notable instance of what Milton in his Areopagitica calls ‘the precious life-blood of a master spirit, embalmed and treasured up on purpose to a life beyond life’; but of the poet’s own life and its outward circumstances hardly anything at all is known. We are not told where he was born, or where he lived, or in what society he moved; we can only guess at the way in which his life was spent. The tradition confines itself almost exclusively to his death.

The Chronicle of Jerome, compiled about 400 A.D., has a record, probably derived from a lost work by Suetonius, to the following effect:

The poet Titus Lucretius was born in 94 B.C.; he lost his reason in consequence of drinking a love-philtre and died by his own hand in his forty-fourth year, after composing in his lucid intervals several books which Cicero afterwards corrected.

Thus the date of his death would be 50 B.C. But Donatus, in his life of Virgil, mentions as a remarkable coincidence that Lucretius died (nothing is said of madness or suicide) on the very day on which Virgil entered on his sixteenth year, i.e. on October 15, 55 B.C. It is generally believed that Donatus has preserved the true

1 Titus Lucretius poeta nascitur. Postea amatorio poculo in furorem uersus, cum aliquot libros per interualla insaniae conscribisset, quos postea Cicero emendauit, propria se manu interfecit anno aetatis XLIV.

2 [Vergilius] virilem togam xv anno natali suo accepit, evenitque ut eo ipso die Lucretius poeta decederet. Donatus also probably took this biography from Suetonius.
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date, and that Lucretius was born in 99 B.C. and died in 55 B.C. The latter date is confirmed to some extent by the mention of Lucretius and his poem in a letter written by Cicero to his brother Quintus in January or February of the year 54 B.C. Of this letter more is said below.

Jerome's other statements have given rise to much doubt and endless discussion. There is certainly some reason for scepticism. A 'love-philtre' seems to have no place in sober biography. Further, with regard to the alleged madness and suicide, it is strange that such a tragical ending of a great poet is nowhere alluded to by any subsequent Latin writer; and on the other hand, the story sounds quite like a pious fiction invented by someone who was shocked by the heterodoxy of Lucretius. A similar end was invented for Lucian, another Epicurean heretic: he is said by the lexicographer Suidas\(^1\) to have been torn to pieces by dogs, which may be a distorted version of the fact that he had warm contentions during his lifetime with certain Cynic philosophers. Again it is almost incredible that the poem was written in the lucid intervals of insanity: in those parts of the poem which are not obviously unfinished, the argument is orderly, almost to pedantry, and the arrangement masterly. And yet, for all this, Jerome's account of his death may be true:

'We poets in our youth begin in gladness;
But thereof come in the end despondency and madness.'

The statement that Cicero corrected the books implies one fact which is certainly true—that Lucretius, like Virgil after him, left his poem unfinished, and that it was given to the world after his death by some other hand. But we are not told what kind or amount of 'correction' the editor supplied, nor even which Cicero was the editor,

\(^1\) 'It was customary for Suidas to invent a horrid death for those whose doctrines he disliked' (T. Dyer in Smith's Dictionary of Biography, II p. 814).
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the orator himself or his brother Quintus. Munro’s conclusions are now generally accepted—that Marcus Cicero was the so-called editor, that he gave the poem to the world exactly as it was left by the author, and that he is likely to have employed the services of Atticus in the production; for Atticus owned a large copying-establishment and himself professed the philosophy of Epicurus.

It was said above that Cicero mentions the poet in a letter written to his brother at the beginning of the year 54 B.C., a few months after the poet’s death. In all the works of Cicero there is no other mention of Lucretius by name. Cicero’s taste in poetry is well known: a hearty admirer of Ennius and his school, he felt something between amusement and contempt for those writers of the day who were endeavouring, with Catullus and Calvus as their leaders, to reproduce the learned art of the Alexandrian scholars. We should expect to find in Cicero unbounded admiration for a poem so fresh and strong and native as the De Rerum Natura. But what he says on the subject to his brother, if not unappreciative, is certainly disappointing in its coolness and brevity. He wrote thus:

Lucreti poemata, ut scribis, ita sunt, multis luminibus ingenii, multae tamen artis.

Quintus had expressed his opinion, and Cicero now concurs in it. His words probably mean: ‘I agree with your estimate of the poem of Lucretius. It displays not only the native genius (ingenium) of the early Roman poets, but also that art of finished execution (ars) which our modern poets have imitated from the Alexandrians.’ But all the editors of Cicero’s Letters used to insert a non

1 Compare Tusc. Disp. iii 45 with Ad Att. vii 2, 1.
2 Ad Quintum fr. ii 9 (11), 4.
3 For the contrast between ingenium and ars, compare Ovid Trist. ii 424 Ennius ingenio maximus, arte rudis; Quint. Inst. i 8, 8 ueteres Latini...plus ingenio quam arte valuerunt.
before either *multis* or *multae*, thus denying to Lucretius either *ingenium* or *ars*. The insertion of a negative, however, is a bold step in any case where the text is intelligible without it. That Cicero should deny *ingenium* to Lucretius is inconceivable; if he had denied him *ars*, reasons could, I think, be given for such an opinion. But it is wiser to leave the text alone and believe that the brothers found both *ingenium* and *ars* in the poem. Still it is difficult to understand why Cicero was not more enthusiastic in its praise, and why there is not a single mention of Lucretius in the long series of philosophical works which Cicero poured forth ten years after the poet’s death.\(^1\)

So meagre and uncertain are the details which we learn from the writers of antiquity about the personal history of Lucretius.\(^2\) He is mentioned occasionally by later poets and prose-writers, sometimes quoted and sometimes criticised; but no particulars of his life or death are anywhere else recorded. It is possible to add something to tradition from the internal evidence of his poem.

In the first place, it is fairly certain that Lucretius was a Roman of good family and fortune. His *gentile* name is that of an ancient patrician house; and the tone which he uses to Memmius, a man of high rank and a person of importance in his day, points to the same conclusion: he speaks as an earnest schoolmaster might speak to a pupil

\(^1\) There are tolerably certain allusions to Lucretius in Cicero: see note to l. 74. The most explicit of these occurs in *Tusc. Disp.* i 48 *soleo saepe mirari nonnullorum insolentiam philosophorum, qui naturae cognitionem admirantur, eiusque inventorii et principi gratias exultantes agunt, eumque venerantur ut deum; liberatos enim se per eum dicunt grauisissimis dominis, terrore sempiterno et diurno ac nocturno metu*. Lucretius uses such language repeatedly of Epicurus.

\(^2\) The manuscript life discovered by Dr John Masson in the British Museum in 1894 does contain some new details; but the source from which they were drawn is unknown, which makes one hesitate to attach importance to them.
whom he rather suspects of intending, some day, to play truant. A modern writer has called Lucretius 'the aristocrat with a mission'; and it is true that his tone is that of a man living in easy circumstances and familiar with the luxury which he condemns as not productive of happiness.

It is even more certain that he took no part in public affairs. Political activity was never approved of by the rule of Epicurus; and Roman politics, during the manhood of Lucretius, could attract none but the bold and unscrupulous. The great Republic was reeling to its fall, and the horizon grew steadily darker and darker with the menace of civil war. Lucretius never speaks with stronger conviction than when he denounces the career of the political adventurer: it is quite possible that he wrote thus with Caesar in his mind. Nor again could the literary activity of the time bring him into close contact with other men: the literature he loved belonged to the past. He was before all things a student. Much of his time must have been spent over the Greek philosophers and poets. In one of his very rare self-revelations he tells us that the absorbing pursuit of his life, which he carried on in the watches of 'the clear nights,' and which haunted him even in his dreams, was the study of the philosophers and the exposition in his poem of their 'glorious discoveries.' His master Epicurus himself left three hundred rolls, 'golden words,' says Lucretius, 'on all of which I feed like a bee among the flowers'; and there are other philosophers whose authority he acknowledges or whose doctrine he refutes; Empedocles and Democritus are conspicuous among the former, Heracleitus and Anaxagoras among the latter. He also translates from or imitates the following Greek authors: Homer, Hesiod, Aeschylus, Euripides, Thucydides, Hippocrates, and perhaps Aristophanes and Plato. His Greek library must have been

1 Myers, Classical Essays, p. 126.
2 See note to l. 41.
3 E.g. ii 11 foll.
4 See i 142; iv 969.
5 See iii 9–13.
large; and one is tempted to find a special affinity between his mind and that of Thucydides. The Latin writers whom he seems to have loved best survive only in fragments; yet it is possible to trace imitation of Ennius and his nephew Pacuvius, the chief epic poet and the chief tragedian of primitive Roman literature.

Finally, from the truth and evident pleasure with which he describes natural scenes and objects of all kinds, and uses them to illustrate his argument, we may surely infer that his life was spent by preference in the country and in the open air. One great charm of his poem is that it breathes more of the open air than of the library. Let us think of Lucretius in some quiet place away from the bloody faction-fights of the Roman streets; let us imagine him watching the lambs frisking over the meadows in spring, or the summer sunrise, or the sea now dashing on the rocks and now rippling over the sand; let us fancy him returning at nightfall to pore over the rolls of Epicurus, and ponder the hard problem of reproducing their contents in the stubborn medium of Latin hexameter verse. How many a rough draft he must have thrown into the fire in the small hours! And then he went to bed, to pursue the familiar task in his dreams.

II

DE RERUM NATURA

The De Rerum Natura is a didactic poem: it professes to expound systematically a particular subject. The Works and Days of Hesiod, the Georgics of Virgil, Pope's Essay on Man, all belong to this class of poetry. The subject which the poem of Lucretius is intended to explain is the philosophical system of Epicurus or rather a part of it. The system was divided, like other ancient systems, into three parts: (1) Physics, or Natural Science; (2) Ethics;

1 Sellar, Roman Poets of the Republic, p. 294.
(3) Logic or, as Epicurus preferred to call it, Canonic, the method of ascertaining truth. It is the first of these parts with which Lucretius is mainly concerned; his references to Ethics or Logic are merely incidental.

Poetry had been used already by Greek philosophers to convey their doctrine, for example, by Parmenides and Xenophanes; but the form and title of this poem are derived especially from Empedocles of Agrigentum, who lived in the fifth century B.C. and wrote a treatise *Περὶ Φυσεως* in hexameter verse, of which considerable fragments are extant. The poem of Lucretius is dedicated to Gaius Memmius, an aristocrat and politician1; why Lucretius chose him out for this distinction we do not know. No other contemporary is mentioned throughout the poem.

The first two books are devoted to an account of atoms and void, which are, according to Epicurus, the eternal and exclusive elements of which the universe is composed; here, too, the rival theories of other philosophers, Heracleitus, Empedocles, and Anaxagoras, are stated and refuted. The third book is taken up in proving that the soul is not immortal but a material part of man, made up of atoms as the body is, and perishing with the body. The fourth book explains the Epicurean theory of sight and the other senses; the fifth discusses the motions of the heavenly bodies, and describes the origin of the world, of life, and of human society. The last book is miscellaneous in its contents: it begins by discussing the nature of thunder, lightning, and other celestial phenomena; it deals next with various natural curiosities, such as magnetic attraction, and ends with a description, taken from Thucydides, of the plague which devastated Athens in 430 B.C. There is no sort of epilogue to the poem as a whole; it is very likely, that if Lucretius had lived to complete his task, the ending would have been less abrupt than it is now.

1 See note to l. 26.
Thus it will be seen that Lucretius begins by laying down the first principles of the atomic philosophy, and then discusses in his last four books some special applications of that doctrine. The poet's aim throughout is practical and moral rather than scientific. Shelley himself was not a more eager humanitarian than Lucretius. His main object, as he asserts more than once, is to free the soul of man from superstitious fears by displaying the aspect and the laws of nature; and this is why he argues with such passionate earnestness against the immortality of the soul and the interference of the gods in human affairs. He values his atomic theory not so much for its truth, but because it gives, or professes to give, a natural explanation of phenomena generally attributed to supernatural agency. It appears that Lucretius lived long enough to complete in outline the task he had set before himself; but not one of the six books is complete and finished in detail.

Let us briefly examine the First Book from this point of view. (1) The noble prelude, so famous for its strength and beauty, has not escaped criticism with regard to the arrangement of its paragraphs. (2) Later in the book there is a passage of nearly a hundred lines where the course of the argument remains confused and unsatisfactory after all the labours of a generation of commentators. (3) There are a number of short passages hardly intelligible where they stand, of which the explanation follows in a different part of the poem. The inference to be drawn from this is not doubtful. While Lucretius was engaged upon the later parts of his work, it often struck him that the argument in hand might serve in an earlier discussion; whereupon he turned back and hastily inserted some provisional lines in his manuscript. In the

1 See notes to ll. 54, 150, 931.
2 See note on p. 39.
3 Ll. 503–598. The difficulties are pointed out (but not explained) in the Notes.
course of revision he would have expanded or removed such insertions.  
With regard to the diction and metre of the poem, Lucretius deliberately adopted a style which must have seemed archaic to his contemporaries. This may be seen by comparing the De Rerum Natura with the Peleus and Thetis of Catullus, which was certainly written at nearly the same time. As Greek epic verse continued to the end to repeat the forms and vocabulary of Homer, so Lucretius chose for his model the Annales of Ennius, the one great epic which the language possessed, though two centuries had passed since it was written. At the beginning of his own poem he speaks with high admiration of Ennius, and often imitates even the few hundred lines of fragments which we possess. It is probable too that his archaism was intended as a protest against the tendency of contemporary writers. For in his time there was great literary activity among the Romans. Any educated man, Mommsen says, could turn out his five hundred hexameters at a sitting; Quintus Cicero wrote four tragedies in a fortnight to beguile the dulness of winter-quarters in Gaul. But most of this poetry was bad imitation of such second-rate models as Callimachus and the other academic poets of Alexandria. The pure taste of Lucretius, revolting from the predominant fashion, attached itself to Ennius and, through Ennius, to the great Greeks of a former age. His philosophical creed and his taste in literature alike led him to discard antiquarian and mythological lumber. The mythology he refused to believe, and he valued no learning except that which had power to relieve the life of man from unhappiness and degradation.

His archaism is seen both in language and in style. He uses old words and forms, from which Virgil selects with discrimination; and also—though this is often due to

1 See Note to I. 146, and Index s.v. Insertions. Giussani was the first to insist on this sign of imperfection in the text of Lucretius.
metrical necessity—he coins words like Cato and Ennius before him. He is excessively fond of alliteration and assonance, which are so congenial to early Latin and occur so frequently in Ennius and still more in Plautus; here again Virgil declined to go to such lengths as his predecessors: the *Aeneid* is indeed full of alliteration, but the alliteration is not obtruded. His sentences are often exceedingly long and rather loosely constructed; he is indifferent to ambiguities which the Augustan poets would not have tolerated; and the position of words in his verse is unlike their practice. Again his metre, though much more musical and beautiful than that of Ennius, is itself wanting in harmony and especially in variety, when compared with the rich perfection of Virgil's rhythm.

The difficulty of Lucretius, which even the ancients felt, is due chiefly to the nature of the subject, but partly also to the inadequacy of the language as an instrument for expressing abstract ideas. Ennius had been able with rude vigour to depict the early history of Rome, to lay down a model of heroic verse for his successors, and to bequeath to them a considerable vocabulary. But the language was still, as Lucretius thrice over complains, a very imperfect instrument for philosophic discussion or scientific argument. The measure of success which he attained is astonishing and must have been the reward of immense labour.

It has often been said that Lucretius was unfortunate in his choice of a subject; but one feels that for him it was impossible to write on any other. According to Milton, poetry should be simple, sensuous, impassioned; and it would be difficult for any poem consisting mainly of the exposition of a philosophical system, to deserve even one

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1 See Index under *Archaic forms, Alliteration, Assonance, Ambiguity, Emphatic position.*
2 Quintilian *Inst. Or.* x i, 87.
3 See note to l. 139.
of these epithets. But Lucretius, while he shirked no stumbling-blocks, does not confine himself to the dry bones of his subject: he ‘touches it all’—to use his own phrase—‘with the charm of the Muses.’ And so Fitz-Gerald wrote of him: ‘I venerate the earnestness of the man, and the power with which he makes some music from his hardest Atoms.’

Whether or not he was ill-advised in his choice of a subject, his poem will continue to find readers as long as Latin is read at all. The greatness is in the man rather than in the theme. In the Atomic Theory there is much that is striking to the imagination; but after all it is the personality of Lucretius that makes his work a possession for ever—his unfailing enthusiasm, his perfect sincerity, his noble sadness, his poetic genius. Throughout the poem, and not least in the First Book, there are long passages where nothing is needed, and nothing is given, but orderly statement and appropriate argument—passages where, as Manilius says of his astronomy,

Ornari res ipsa negat, contenta doceri.¹

But when the occasion comes and Lucretius lets himself go, he can rise to the level of the great Greeks. No poet has in a higher degree the power to be at once simple and sublime. Thus when he wishes to say that primitive man assigned to his gods a dwelling in the sky, this is how he says it:

In caeloque deum sedes et templum locarunt,
Per cælum uoluit quia nox et luna uidetur,
Luna, dies et nox et noctis signa seuerat,
Noctuagaeque faces caeli flammaeque uolantes,
Nubila, sol, imbres, nix, uenti, fulmina, grando,
Et rapidi fremitus et murmura magna minarum.²

To match such noble music as this, one must go back to Homer and to Pindar, or to the Book of Job itself.

¹ Astron. iii 39.
² Book v 1188–1193.
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To his high qualities there is no lack of testimony. Few have known both ancient and modern literature as Macaulay did; and he says of Lucretius: 'In energy, perspicuity, variety of illustration, knowledge of life and manners, talent for description, sense of the beauty of the external world, and elevation and dignity of moral feeling, Lucretius had hardly ever an equal.' Then Munro, as competent a judge as any man who ever lived, wrote thus in 1854:

'It would hardly perhaps do violence to the taste of the present age to call Lucretius the greatest of extant Latin poets....He has merits of his own unsurpassed in the whole compass of Latin poetry. It has often struck me that his genius is akin to that of Milton. He displays a wonderful depth and fervour of thought, expressed in language of singular force and beauty; an admirable faculty of clear and vigorous and well-sustained philosophical reasoning; and a style equal in its purity and correctness to that of Terence, Caesar, or Cicero, and superior to that of any writer of the Augustan age.'

And lastly Sellar, who seems to get near to the secret of that spell which Lucretius throws over his lovers, sums up his criticism thus:

'Lucretius stands alone as the great contemplative poet of antiquity. He has proclaimed with more power than any other the majesty of Nature's laws, and has interpreted with a truer and deeper insight the meaning of her manifold life. Few, if any, among his countrymen, felt so strongly the mystery of man's being, or have indicated so passionate a sympathy with the real sorrows of life, and so ardent a desire to raise man to his proper dignity, and to support him in bearing his inevitable burden....His powers of observation, thought, feeling, and

1 Life and Letters, 1 p. 468.
2 Giussani compares him to Dante.
3 Journal of Sacred and Classical Philology, 1 p. 21.
imagination, are characterised by a remarkable vitality and sincerity. His strong intellectual and poetic faculty is united with some of the rarest moral qualities—fortitude, seriousness of spirit, love of truth, manly tenderness of heart.'

III

THE LEYDEN MANUSCRIPTS OF LUCRETIUS

The text of Lucretius depends mainly upon two manuscripts which are now in the University Library of Leyden. Both belonged at one time to Isaac Vossius, a Dutch scholar who settled in England and died as a prebend of Windsor in 1689. Vossius, who was a native of Leyden, never published a collation of these manuscripts. When Vossius died, several learned bodies sought to acquire the library which contained these and other treasures. Evelyn wrote to Pepys on August 12, 1689: 'I wished with all my heart some brave and noble Maecenas would have made a present of them to Trinity College in Cambridge'; but the Maecenas was not forthcoming, and this laudable wish was not realised. Bentley, not yet Master of Trinity but residing at Oxford as tutor to young Stillingfleet, tried to secure the collection for the Bodleian; but the negotiations hung fire, and meanwhile the University of Leyden put money in its purse, stepped in, and carried off the prize.

But that once famous centre of learning made little use of their acquisition. The manuscripts lay on the shelf uncollated and unknown until 1725, when Havercamp used them for his edition of Lucretius published in that year. Havercamp had no inkling of their importance; and even his report of their readings was incomplete and inaccurate. But Lachmann has written this editor's epitaph: Havercampum omni tempore omnes contemptserunt. Their true value was revealed by Lachmann himself in his edition

of 1850. The MSS. were sent to Berlin for his use in April, 1846, and here at last was the man who could use them: he had all the needful qualifications—profound knowledge, diligence, and genius. He set the text of Lucretius once for all on a scientific basis, and in the next year he died. His work has been supplemented and corrected by Munro and others; but he remains and will remain the greatest editor of Lucretius.

One of these MSS. is a folio, the other a quarto. Hence they were called by Lachmann Oblongus and Quadratus; and the signs O and Q are used to designate the MSS. and their respective readings, and have been so used in the few critical notes subjoined to the text here printed.

The Codex Vossianus Oblongus, otherwise O, is older and better than Q: it is indeed one of the first of all Latin MSS. and deserves to rank with much earlier MSS. written in capitals, such as the Ambrosian of Plautus, the Esembine of Terence, and the Mediceus and Vaticani of Virgil. A photographic facsimile was published at Leyden in 1908, with a preface by the veteran palaeographer, M. Ém. Chatelain¹.

O was written in the middle of the ninth century in the hand commonly used at that date in the Benedictine monasteries of France and Germany. Nothing is known of its history till 1479 when it was in the Cathedral library at Mainz. How it came into the possession of Isaac Vossius is not known. It has 20 lines to a page; very few contractions are used; an attempt is made, without much success, to separate the words; there are a few interlinear glosses of no value, but none after i 782. O has had several correctors, who can be distinguished chiefly by the different signs they used to mark mistakes. A Saxon or Irish corrector has in many places supplied missing lines

¹ What follows is mainly taken from Chatelain's preface. I have added a few details from personal knowledge of the facsimile.
or parts of lines; his additions can be readily identified owing to the great difference of his handwriting. These correctors left many gross errors without alteration or comment: thus in l. i of Book iii the true text is

\[ E \text{ tenebris tantis tam clarum extollere lumen;} \]

but O reads, with no sign of correction,

\[ O \text{ tenebris tantis tam clarum extollere flumen}^1. \]

The spelling of O is remarkably good, and our present spelling of Latin has been influenced by it. Thus it preserves the writing of est as an enclitic, which is vouched for by the ancient grammarians: e.g. it has \textit{patefactast} in i 10, \textit{necesset} in i 146, \textit{uisumst} in i 308. Yet the scribe betrays in many cases ignorance of the metre. For instance, Lucretius uses the genitive in \textit{-āī} 114 times in nouns and three times in adjectives: the scribe regularly omits the last syllable and thus makes a line end with such a word as \textit{materiā} or \textit{uiā}. Again Lucretius is proved by metre to have used \textit{nīl} and \textit{nīlo}, never \textit{nihil} or \textit{nihilo}; but the scribe always used the longer forms, so that i 160 ends \textit{nihil semine egeret}.

In O (but not in Q) there are occasional headings, each occupying a line, and intended to serve as a kind of table of contents. These are written in different and larger letters. But occasionally the scribe has mistaken a heading for a line of the poem, or a line of the poem for a heading\textsuperscript{2}.

That O is older than Q is proved by the fact, that in Q four portions of the text (i 738–785, ii 253–304, ii 757–806, v 928–979) appear, not in their right places but together at the end of the poem. This shows that after O was written, four passages had fallen out of their right places in the MS. from which both O and Q were copied, and were inserted at the end before Q was copied. Now each of these passages consists of 52 lines, if the

\[ ^1 \text{Q omits } E \text{ but reads lumen.} \]

\[ ^2 \text{See note to l. 334.} \]
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headings mentioned above are reckoned in. Hence Lachmann drew two important conclusions: that each of these passages consists of one leaf of the original MS., and that it had 26 lines to a page.

Every extant MS. of Lucretius is derived from a single source, a manuscript written in small letters in France or Ireland in the 7th or 8th century. Had that manuscript perished before any copies were made, we should know nothing of Lucretius except the few single lines which happen to be quoted by later writers. And in that case our whole estimate of the Latin genius would have been materially lower than it actually is.

IV

BERNAYS AND GIUSSANI

Of Lachmann’s work something was said above. Munro’s edition, with its rich Introductions, ample Commentary, and incomparable Translation, is known to every student of Lucretius. There remain two editors to whom I owe so much that I wish to speak briefly of them here.

Jacob Bernays, born at Hamburg in 1824, spent nearly all his life at Bonn and died there in 1881. A master of Greek learning, he would have added distinction to any chair in Europe, but he was never elected to a professorship: his whole life was devoted to the acquisition of knowledge and the writing of books. It is reported of Ingram Bywater that he never mentioned the name of

1 The late Sir Godfrey Lushington, as an official in the Home Department, had at one time the duty of deciding whether condemned criminals should be hanged or reprieved. He told me that in the intervals of studying the documents concerning such cases, no reading gave such relief to his tension of mind as the two Introductions in Munro’s Lucretius.
Bernays in lecture without lifting his cap; and Bernays was indeed no ordinary scholar. To great learning, never a rarity in Germany, he added an acuteness of mind, a catholicity of interest, and a sense of form, which are rare in any country. He had no racial or religious exclusiveness: though a devout Jew, he did not hate Christians; though a German, he did not despise English scholarship. Most of his books are short: they deal in about a hundred pages with some problem of history or philosophy; and it is hard to say whether the matter or the form of these little masterpieces is more admirable.

His first publication, in 1847, dealt with the text of Lucretius\(^1\). Five years later his text of the whole poem was published by Teubner. In 1853 he was working at a commentary on Lucretius, intended for the Clarendon Press; and even that great institution might have been proud to publish it. But not a single sheet of it ever reached Oxford: he laid it aside, and the remonstrances of his friends could never persuade him to complete it. What he had prepared for print was first published in 1885\(^2\), four years after his death; and it ends at l. 685 of the First Book. Everything intended for print Bernays wrote out at least three times with his own hand; and the perfection of form that marks this fragment is the reward of such pains. Every word tells. The Latin notes are generally very brief, though there are plenty of them. But at times he quotes a long text of Epicurus, emends it perhaps, translates it into perspicuous Latin, and explains it. Every lover of Lucretius must regard it as a real misfortune that Bernays never completed this commentary.

Carlo Giussani was born at Milan in 1840 and studied in Germany, giving his attention chiefly to Oriental Languages. In 1876 he was appointed Professor of Latin

\(^1\) *De emendatione Lucretii* (Rheinisches Museum, v 533).
at Milan. He published his edition of Lucretius in 1896\textsuperscript{1} and followed it up with his \textit{Note Lucreziane} in 1899; the second book is a reply to the critics of the first. He died at Milan in 1900.

Giussani’s work differs in many ways from that of Bernays. Though never clumsy or pedantic, he takes no pains about the presentation of his matter and has no power to state an argument concisely. His commentary, with the preliminary volume of essays, and the supplementary volume of answers to critics, runs to such a length that it is not likely ever to be translated into English. He was too ready to resort to transpositions of the text. He can hardly be called a good Latin scholar: he sometimes mistook the meaning of words and even disfigured his text by false quantities. And yet, in spite of these deficiencies, it may be said that he revolutionised the study of Lucretius. He did this by turning the searchlight of a wonderfully acute intellect upon all the places where the sequence of thought had not been made clear by previous interpreters; and he succeeded again and again where others had failed: \textit{uidua uis animi peruit}. The ingenious are too apt to discover mare’s-nests; but it seems to me that Giussani, for all his wonderful ingenuity, found few such. In appreciation of Lucretius, either as reasoner or as poet, he is inferior to none of the commentators, and his name will not be forgotten while the \textit{De Rerum Natura} is studied.

\textsuperscript{1} Four volumes, Torino (Ermanno Loescher), 1896.
T. LVCRETI CARI

DE RERVM NATVRA

LIBER PRIMVS

Aeneadum genetrix, hominum diuomque voluptas,
Alma Venus, caeli subter labentia signa
Quae mare nauigerum, quae terras frugiferentis
Concelebras, per te quoniam genus omne animantum
Concipitur uisitque exortum lumina solis:
Te, dea, te fugiunt uenti, te nubila caeli
Aduentumque tuum, tibi suavis daedala tellus
Submittit flores, tibi rident acquora ponti,
Placatumque nitet diffuso lumine caelum.
Nam, simul ac species patefactast uerna diei
Et reserata uiget genitabilis aura Fauoni,
Aeriae primum uolucre te, diua, tuumque
Significant initum, perculsae corda tua ui;
Inde ferae pecudes persultant pabula laeta
Et rapidos tranant amnis: ita capta lepore
Te sequitur cupide quo quamque inducere pergis.
Denique, per maria ac montis fluuisque rapacis
Frondiferasque domos auium camposque uirentis,
Omnibus incutiens blandum per pectora amorem,
Efficis ut cupide generatim saccla propagent.
Quae quoniam rerum naturam sola gubernas,
Nec sine te quicquam dias in luminis oras
Exoritur, neque fit laetum neque amabile quicquam,
Te sociam studeo scribendis uersibus esse,
Quos ego de rerum natura pangeor
Memmiadae nostro, quem tu, dea, tempore in omni
Omnibus ornatum uoluisti excellere rebus:
Quo magis aeternum da dictis, diua, leporem.
Effice ut interea fera moenera militiai
Per maria ac terras omnis sopita quiescant.
Nam tu sola potes tranquilla pace iuuare
Mortalis, quoniam belli fera moenera Mauors
Armi potens regit, in gremium qui saepe tuum se
Reicit, aeterno deuctus uulnere amoris,
Atque ita suspiciens, tereti ceruice reposta,
Pascit amore auidos inhians in te, dea, uisus,
Eque tuo pendet resupini spiritus ore.
Hunc tu, diua, tuo recubantem corpore sancto
Circumfusa super, suauis ex ore loquellas
Funde, petens placidam Romanis, incluta, pacem.
Nam neque nos agere hoc patriai tempore iniquo
Possumus aequo animo, nec Memmi clara propago
Talibus in rebus communi desse saluti.

*   *   *   *   *   *

Quod superest, uacuas auris animumque sagacem
Semotum a curis adhibe ueram ad rationem,
Ne mea dona, tibi studio disposta fidelis,
Intellecta prius quam sint, contempta relinquas.
Nam tibi de summa caeli ratione deumque
Disserere incipiam, et rerum primordia pandam,
Vnde omnis natura creet res auctet alatque,
Quoue eadem rursum natura perempta resoluat;
Quae nos materiem et genitalia corpora rebus
Redunda in ratione uocare et semina rerum

44-49 = 11 646-651 seclusit Pontanus, lacunam indicauit Lachmann.
Appellare suemus, et haec eadem usurpare
Corpora prima, quod ex illis sunt omnia primis.

Humana ante oculos foede cum uita iaceret
In terris, oppressa graui sub religione,
Quae caput a caeli regionibus ostendebat,
Horribili super aspectu mortalibus instans,
Primum Graius homo mortalis tollere contra
Est oculos ausus primusque obsistere contra;
Quem neque fama deum nec fulmina nec mimitanti
Murmure compressit caelum, sed eo magis acrem
Inritat animi uirtutem, effringere ut arta
Naturae primus portarum clastra cupiret.
Ergo uiuida uis animi peruicit, et extra
Processit longe flammantia moenia mundi,
Atque omne immensum peragrauit mente animoque;
Vnde refert nobis uictor, quid possit oriri,
Quid nequeat, finita potestas denique cuique
Quanam sit ratione atque alte terminus haerens.
Quare religio pedibus subiecta uicissim
Obteritur, nos exaequat uictoria caelo.

Illud in his rebus uereor, ne forte rearis
Impia te rationis inire elementa uiamque
Indugredi sceleris. Quod contra saepius illa
Religio peperit scelerosa atque impia facta.
Aulide quo pacto Truiuai uirginis aram
Iphianassai turparunt sanguine foede
Ductores Danaum delecti, prima uiorum.
Cui simul infula, uirgineos circundata comptus,
Ex utraque pari malarum parte profusast,
Et maestum simul ante aras adstare parentem
Sensit, et hunc propter ferrum celare ministros, 90
Aspectuque suo lacrimas effundere ciuis,
Muta metu terram genibus summissa petebat.
Nec misereae prodesse in tali tempore quibat,
Quod patrio princeps donarat nomine regem.
Nam sublata uirum manibus tremibundaque ad aras 95
Deductast, non ut, sollemni more sacrorum
Perfecto, posset claro comitari Hymenaeo,
Sed casta inceste, nubendi tempore in ipso,
Hostia concideret maactatu maesta parentis,
Exitus ut classi felix faustusque daretur!
Tantum religio potuit suadere malorum!

Tutemet a nobis iam quouis tempore, uatum
Terriloquis uictus dictis, desciscere quaeres.
Quippe etenim quam multa tibi iam fingere possunt
Somnia, quae uitae rationes uertere possint 105
Fortunasque tuas omnis turbare timore!
Et merito: nam, si certam finem esse uidere
Aerumnarum homines, aliqua ratione ualerent
Religionibus atque minis obsistere uatum.
Nunc ratio nulla est restandi, nulla facultas,
Aeternas quoniam poenas in morte timendumst.
Ignoratur enim quae sit natura animal,
Nata sit an contra nascentibus insinuetur,
Et simul intereat nobiscum, morte diremta,
An tenebras Orci uisat uastasque lacunas, 115
An pecudes alias diuinitus insinuet se,
Ennius ut noster cecinit, qui primus amoeno
Detulit ex Helicone perenni fronde coronam,
Per gentis Italas hominum quae clara clueret;
Etsi praeterea tamen esse Acherusia templa 120
Ennius aeternis exponit uersibus edens, Quo neque permaneant animae neque corpora nostra, Sed quaedam simulacra, modis pallentia miris; Vnde sibi exortam semper florentis Homeri Commemorat speciem lacrimas effundere salsas Coepisse, et rerum naturam expandere dictis. Quapropter bene cum superis de rebus habenda Nobis est ratio, solis lunaeque meatus Qua fiant ratione, et qua ui quaeque gerantur In terris, tum cum primis ratione sagaci Vnde anima atque animi constet natura uidendum, Et quae res nobis uigilantibus obuia mentes Terrificet morbo adfectis, sonnoque sepultis, Cernere uti uideamur eos audireque coram, Morte obita quorum tellus amplexitur ossa.

Nec me animi fallit Graiorum obscura reperta Difficile inlustrare Latinis uersibus esse, Multa nouis illustrare Latinis uersibus esse, Multa nouis uerbis praesertim cum sit agendum Propter egestatem linguae et rerum nouitatem. Sed tua me uirtus tamen, et sperata uoluptas Suauis amicitiae, quemuis sufferre laborem Suadet, et induct noctes uigilare serenas, Quaerentem dictis quibus et quo carmine demum Clara tuae possim praepandere lumina menti, Res quibus occultas penitus conuisere possis.

Hunc ititur terrorem animi tenebrasque necessit Non radii solis nec lucida tela diei Discutiant, sed naturae species ratioque. Principium cuius hinc nobis exordia sumet, 141 sufferre Heinsius, efferre QQ.
Nullam rem e nilo gigni diuinitus umquam. 
Quippe ita formido mortalis continet omnis, 
Quod multa in terris fieri caeloque tuentur, 
Quorum operum causas nulla ratione uidere 
Possunt, ac fieri diuino numine rentur. 
Quas ob res, ubi uiderimus nil posse creari 
De nilo, tum quod sequimur iam rectius inde 
Perspiciemus—et unde queat res quaeque creari, 
Et quo quaeque modo fiat opera sine diuom.

(i) Nam, si de nilo fient, ex omnibus rebus
Omne genus nasci posset, nil semine egeret. 
E mare primum homines, e terra posset oriri
Squamigerum genus, et uolucrese erumpere caelo;
Armenta atque aliae pecudes, genus omne ferarum,
Incerto partu, culta ac deserta tenerent.
Nec fructus idem arboribus constare solerent,
Sed mutarentur: ferre omnes omnia possent.
Quippe, ubi non essent genitalia corpora cuique,
Qui posset mater rebus consistere certa?
At nunc, seminibus quia certis quaeque creantur,
Inde enascitur atque oras in luminis exit,
Materies ubi inest cuiusque et corpora prima;
Atque hoc re nequeunt ex omnibus omnia gigni,
Quod certis in rebus inest secreta facultas.

(ii) Praeterea, cur uere rosam, frumenta calore,
Vuas autumno fundi suadente uidemus,
Si non, certa suo quia tempore semina rerum
Cum confluxerunt, patefit quodcumque creatur,
Dum tempestate adsunt et uidula tellus
Tuto res teneras effert in luminis oras?

175 Vuas Pontanus, Vites OQ.
Quodsi de nilo fient, subito exorerentur
Incerto spatio atque alienis partibus anni,
Quippe ubi nulla forent primordia, quae genitali
Concilio possent arceri tempore iniquo.

(iii) Nec, porro, augendis rebus spatio foret usus,
Seminis ad coitum, si e nilo crescere possent.
Nam fient juvenes subito ex infantibus paruis,
E terraque exorta repente arbusta salirent.
Quorum nil fieri manifestum est, omnia quando
Paulatim crescent, ut par est, tempore certo
Res quoniam crescent omnes de semine certo,
Crescentesque genus servaunt; ut noscere possis,
Quicque sua de materia grandescere alique.

(iv) Huc accedit, uti sine certis imbribus anni
Laetificos nequeat fetus submittere tellus,
Nec porro, secreta cibo, natura animantum
Propagare genus possit uitamque tueri;
Vt potius multis communia corpora rebus
Multa putes esse, ut’uerbis elementa uidemus,
Quam sine principiis ullam rem existere posse.

(v) Denique, cur homines tantos natura parare
Non potuit, pedibus qui pontum per uada possent
Transire, et magnos manibus diuellere montis,
Multaque uiuendo uitalia uincere saecula,
Si non, materies quia rebus reddita certa est
Gignundis, e qua constat quid possit oriri?
Nil igitur fieri de nilo posse fatendumst,
Semine quando opus est rebus, quo quaeque creatae
Aeris in teneras possint proferrier auras.

(vi) Postremo, quoniam incultis praestare uidemus

189 lacunam indicauit et uersum supplevit Munro.
207 possint Pontanus, possent OQ.
Culta loca et manibus melioris reddere fetus, 
Esse uidelicet in terris primordia rerum,  
Quae nos, fecundas uertentes uomere glebas 
Terraique solum subigcentes, cimus ad ortus. 
Quodsi nulla forent, nostro sine quaeque labore 
Sponte sua multo fieri meliora uideres.

Huc accedit, uti quicque in sua corpora rursum 
Dissoluat natura, neque ad nilum interimat res.  
(i) Nam, squid mortale e cunctis partibus esset, 
Ex oculis res quaeque repente erepta periret: 
Nulla ui foret usus enim, quae partibus eius 
Discidium parere et nexus exsolucre posset.  
Quod nunc, aeterno quia constant semine quacque, 
Donec uis obiit, quae res diuerberet ictu 
Aut intus penetret per inania dissoluatque, 
Nullius exitium patitur natura uideri.

(ii) Praeterea, quaecumque uetustate amouet aetas,  
Si penitus perimit, consumens materiem omuem, 
Vnde animale genus generatim in lumina uitae 
Redducit Venus? aut reductum daedala tellus 
Vnde alit atque auget, generatim pabula praebens? 
Vnde mare ingenui fontes externaque longe 
Flumina suppeditant? Vnde aether sidera pascit? 
Omnia enim debet, mortali corpore quae sunt, 
Infinita aetas consumepse anteacta diesque. 
Quodsi in eo spatio atque anteacta aetate fuere, 
E quibus hacc rerum consistit summa refecta,  
Inmortali sunt natura praedita certe:
Haud igitur possunt ad nilum quaeque reuerti.

(iii) Denique, res omnis eadem uis causaque uolgo 
Conficeret, nisi materies aeterna teneret,
Inter se nexu minus aut magis indupedita. Tactus enim leti satis esset causa profecto, Quippe ubi nulla forent aeterno corpore, quorum Contextum uis deberet dissoluere quaeque. At nunc, inter se quia nexus principiorum Dissimiles constant aeternaque materies est, Incolumi remanent res corpore, dum satis acris Vis obeat pro textura cuiusque reperta. Haud igitur redit ad nilum res ulla, sed omnes Discidio redeunt in corpora materiai.

(iv) Postremo, pereunt imbres, ubi eos pater aether
In gremium matris terrai praecipitauit;
At nitidae surgunt fruges, ramique uirescunt Arboribus, crescunt ipsae fetuque grauautur;
Hinc alitur porro nostrum genus atque ferarum,
Hinc laetas urbes pueris florere uidemus
Frondiferasque nouis auibus canere undique siluas;
Hinc fessae pecudes pingui per pabula laeta Corpora deponunt, et candens lacteus umor Vberibus manat distentis; hinc noua proles Artubus insfirmis teneras lasciua per herbas
Ludit, lacte mero mentes perculsa nouellas.
Haud igitur penitus pereunt quaecumque uidentur, Quando alid ex alio reficit natura, nec ulla Rem gigni patitur nisi morte adiuta aliena.

Nunc age, res quoniam docui non posse creari
De nilo, neque item genitas ad nil reuocari,
Nequa forte tamen coeptes diffidere dictis,
Quod nequeunt oculis rerum primordia cerni,
Accipe, praeterea quae corpora tute necessest Confiteare esse in rebus nec posse uideri.
(i) Principio, uenti uis uerberat incita pontum
   Ingentisque ruit nauis et nubila differt;
   Arboribus magnis sternit, montisque supremos
   Siluifragis uexat flabris: ita perfurit acri
   Cum fremitu saeuitque minaci murmurue uentus.
   Sunt igitur uenti nimirum corpora caeca,
   Quae mare, quae terras, quae denique nubila caeli
   Verrunt ac subito uexantia turbine raptant.
   Nec ratione fluunt alia stragemque propagant
   Et cum mollis aquae fertur natura repente
   Flumine abundanti, quam largis imbribus auget
   Montibus ex altis magnus decursus aquai,
   Fragmina coniciens siluarum arbustaque tota;
   Nec ualidi possunt pontes uenientis aquai
   Vim subitam tolerare: ita magno turbidus imbri
   Molibus incurrit ualidis cum uiribus amnis.
   Dat sonitu magno stragem, uoluitque sub undis
   Grandia saxa; ruuit, qua quicquid fluctibus obstat.
   Sic igitur debent uenti quoque flamina ferri,
   Quae, ueluti ualidum cum flumen procubuere
   Quamlibet in partem, trudunt res ante ruuntque
   Impetibus crebris, interdum urrente torto
   Corripiunt rapideque rotanti turbine portant.
   Quare etiam atque etiam sunt uenti corpora caeca,
   Quandoquidem factis et moribus aemula magnis
   Amnibus inueniuntur, aperto corpore qui sunt.

(ii) Tum porro, uarios rerum sentimus odores,
    Nec tamen ad naris uenientis cernimus umquam,

271 pontum Marullus, cortus OQ.
276 uentus Markland, pontus OQ.
294 rapideque Lackmann, rapidique OQ Ernout soloece.
Nec calidos aestus tuimur, nec frigora quimus
Vsurpare oculis, nec uoces cernere suemus;
Quae tamen omnia corporea constare necessest
Natura, quoniam sensus impellere possunt.
Tangere enim et tangi, nisi corpus, nulla potest res.

(iii) Denique, fluctifrago suspensae in litore uestes
Vuescunt, eaedem dispersae in sole serescunt;
At neque, quo pacto persederit umor aquai,
Visumst, nec rursum quo pacto fugerit aestu.
In paruas igitur partis dispersit umor,
Quas oculi nulla possunt ratione uidere.

(iv) Quin etiam, multis solis redeuntibus annis,
Anulus in digito subter tenuatur habendo,
Stilicidi casus lapidem cauat, uncus aratri
Ferreus occulte decrescit uomer in aruis,
Strataque iam ulgi pedibus detrita uiarum
Saxea conspicimus; tum, portas propter, aena
Signa manus dextras ostendunt adtenuari
Saepe salutantum tactu praeterque meantum.
Haec igitur minui, cum sunt detrita, uidemus;
Sed, quae corpora decedant in tempore quoque,
Inuida praecclusit speciem natura uidendi.

(v) Postremo, quaeque dies naturaque rebus
Paulatim tribuit, moderatim crescere cogens,
Nulla potest oculorum acies contenta tueri;
Nec porro quaeque aequo macieque senescunt,
Nec mare quae impendent uesco sale saxa peresa,
Quid quoque amittant in tempore cernere possis.
Corporibus caecis igitur natura gerit res.

Nec tamen undique corporea stipata tenentur

319 sunt scripsi, sint OQ.
Omnia natura; namque est in rebus inane. 330
Quod tibi cognosce in multis erit utile rebus,
Nec sinet errantem dubitare, et quaerere semper
De summa rerum et nostris diffidere dictis.

(i) Quod si non esset, nulla ratione moueri 335
Res possent; namque officium quod corporis exstat,
Officere atque obstare, id in omni tempore adesset
Omnibus; haud igitur quicquam procedere posset,
Principium quoniam cedendi nulla daret res.
At nunc per maria ac terras sublimaque caeli 340
Multa modis multis, uaria ratione, moueri
Cernimus ante oculos; quae, si non esset inane,
Non tam sollicito motu priuata carerent,
Quam genita omnino nulla ratione fuissent,
Vndique materies quoniam stipata quiesset.

(ii) Praeterea, quamuis solidae res esse putentur,
Hinc tamen esse licet raro cum corpore cernas:
In saxis ac speluncis permanat aquarum
Liquidus umor, et uberibus flent omnia guttis;
Dissipat in corpus sese cibus omne animantum; 350
Crescunt arbusta et fetus in tempore fundunt,
Quod cibus in totas usque ab radicibus imis
Per truncos ac per ramos diffunditu omnis;
Inter saepta meand uoces et clausa domorum
Transuolitant; rigidum permanat frigus ad ossa.
Quod, nisi inania sint qua possent corpora quaque
Transire, haud ulla fieri ratione uideres.

(iii) Denique, cur alias aliis praestare uidemus
Pondere res rebus, nilo maiore figura?
Nam si tantundemst in lanae glomere quantum 360
Corporis in plumbo est, tantundem pendere par est,

334 Quapropter locus est intactus inane uacansque delebat
Bentley.
356, 357 sic interpunxit Brieger.
Corporis officium est quoniam premere omnia deorsum:  
Contra autem natura manet sine pondere inanis;  
Ergo quod magnum est aeque leuiusque uidetur,  
Nimirum plus esse sibi declarat inanis;  
At contra grauius plus in se corporis esse  
Dedicat, et multo uacui minus intus habere.  
Est igitur nimirum id quod ratione sagaci  
Quaerimus, admixtum rebus, quod inane uocamus.

Illud in his rebus ne te deducere uero  
Possit, quod quidam fingunt, praecurrere cogor.

(i) Cedere squamigeris latices nitentibus aiunt  
Et liquidas aperire uias, quia post loca pisces  
Linquant, quo possint cedentes confluere undae;  
Sic alias quoque res inter se posse moueri  
Et mutare locum, quamuis sint omnia plena.  
Scilicet id falsa totum ratione receptumst.

Nam quo squamigeri poterunt procedere tandem,  
Ni spatium dederint latices? Concedere porro  
Quo poterunt undae, cum pisces ire nequibunt?  
Aut igitur motu priuandumst corpora quaeque,  
Aut esse admixtum dicendumst rebus inane,  
Vnde initum primum capiat res quaeque mouendi.

(ii) (a) Postremo, duo de concursu corpora lata  
Si cita dissiliant, nempe aer omne necessest,  
Inter corpora quod fiat, possidat inane:  
Is porro quamuis circum celerantibus auris  
Confluat, haud poterit tamen uno tempore totum  
Compleri spatium; nam primum quemque necessest  
Occupet ille locum, deinde omnia possideantur.

(b) Quodsi forte aliquis, cum corpora dissiluere,  
Tum putat id fieri quia se condenseat aer,
Errat; nam uacuum tum fit quod non fuit ante,
Et repletur item uacuum quod constitit ante.
Nec tali ratione potest denserier aer;
Nec, si iam posset, sine inani posset, opinor,
Ipse in se trahere et partis conducere in unum.

Quapropter, quamuis causando multa moreris,
Esse in rebus inane tamen fateare necessest.
Multaque praeterea tibi possum commemorando Argumenta fidem dictis conradere nostris.
Verum animo satis haec uestigia parua sagaci Sunt, per quae possis cognoscre cetera tute.
Namque, canes ut montiuagae persaepe ferai Naribus inueniunt intectas fronde quietes,
Cum semel institerunt uestigia certa uiai,
Sic alid ex alio per te tute ipse uidere Talibus in rebus poteris, caecasque latebras Insinuare omnis, et uerum prothahere inde.
Quod si pigraris paulumue recesseris ab re,
Hoc tibi de plano possum promittere, Memmi:
Vsque adeo largos haustus e fontibu’ magnis Lingua meo suauis diti de pectore fundet,
Vt uerear, ne tarda prius per membra senectus Serpat, et in nobis uitai claustra resoluat,
Quam tibi de quauis una re uersibus omnis Argumentorum sit copia missa per auris.

Sed, nunc ut repetam coeptum pertexere dictis,
(i) Omnis ut est, igitur, per se natura duabus Constitit in rebus; nam corpora sunt, et inane,
Haec in quo sita sunt, et qua diversa mouentur.
(a) Corpus enim per se communis dedicat esse

404 ferai Q corr., ferare OQ, ferarum O corr.
Sensus, cui nisi prima fides fundataualebit, 425
Haud erit, occultis de rebus quo referentes
Confirmare animi quicquam rationeque amus.

(b) Tum porro, locus ac spatium, quod inane uocamus,
Si nullum foret, haud usquam sita corpora possent
Esse, neque omnino quoquam diuersa meare;
Id quod iam supera tibi paulo ostendimus ante.

(ii) Praeterea nil est, quod possis dicere ab omni
Corpore seiusunctum secretumque esse ab inani,
Quod quasi tertia sīt numero natura reperta.

(a) Nam quocumque erit, esse aliquid debebit id ipsum:
Cui si tactus erit quamuis leuis exiguusque,
Augmine vel grandi vel paruo denique, dumsit, 435 [{434}]
Corporis augebit numerum summamque sequetur;
Sin intactile erit, nulla de parte quod ullam
Rem prohibere queat per se transire meantem,
Scilicet hoc id erit, uacuum quod inane uocamus.

(b) Praeterea, per se quocumque erit, aut faciet quid, 440
Aut aliis fungi debebit agentibus ipsum,
Aut erit et possint in eo res esse gercique;
At facere et fungi sine corpore nulla potest res,
Nec praebere locum porro nisi inane uacansque.
Ergo, praeter inane et corpora, tertia per se 445
Nulla potest rerum in numero natura relinqui,
Nec quae sub sensus cadat ullo tempore nostros,
Nec ratione animi quam quisquam possit apisci.

Nam quae cumque cluent, aut his coniuncta duabus
Rebus ea inuenies, aut harum euentu uidebis. 450

435, 434 transposuit Lachmann.
442 possint edd., possunt OQ Munro.
443 nise corpora Housman.
450 harum Bernays, horum OQ.
(i) Coniunctum est id quod nusquam sine permitiali
Discidio potis est seiuungi seque gregari,
Pondus uti saxist, calor ignis, liquor aquai.

(ii) Seruitium contra, paupertas diuitiaeque,
Libertas, bellum, concordia, cetera, quorum
Aduentu manet incolonis natura abituque—
Haec soliti sumus, ut par est, euenta uocare.

(a) Tempus item per se non est; sed rebus ab ipsis
Consequitur sensus, transactum quid sit in aeuo,
Tum quae res instet, quid porro deinde sequatur.
Nec per se quemquam tempus sentire fatendumst,
Semotum ab rerum motu placidaque quiete.

(b) Denique, Tyndaridem raptam belloque subactas
Troiaugenae gentis cum dicunt esse, uidendumst
Ne forte haec per se cogant nos esse fateri,
Quando ea saecla hominum, quorum haec euenta
fuerunt,
Inreucabilis abstulerit iam praeterita aetas.
Namque aliud terris, aliud regionibus ipsis
Euentum dici poterit, quodcumque erit actum.

(c) Denique, materies si rerum nulla fuisset,
Nec locus ac spatium, res in quo quaque geruntur,
Numquam, Tyndaridis formae conflatus amore,
Ignis, Alexandri Phrygio sub pectore gliscens,
Clara accendisset saeui certamina belli;
Nec clam durateus Troianis Pergama partu
Inflammasset equus noctumo Graiugenarum:
Perspicere ut possis res gestas funditus omnis

453 saxist Lachmann, saxis OQ.
454 Tactus corporibus cunctis intactus inani seclusit Lachmann.
473 formae Q, forma O. amore OQ, amoris Wakefield.
LIBER PRIMVS

Non ita uti corpus per se constare neque esse,
Nec ratione cluere eadem, qua constet inane,
Sed magis ut merito possis euenta uocare
Corporis, atque loci, res in quo quaeque gerantur.

Corpora sunt porro partim primordia rerum,
Partim concilio quae constant principiorum.
Sed quae sunt rerum primordia, nulla potest uis
Stinguere; nam solido uincunt ea corpore denum
Etsi difficile esse uidetur credere quicquam
In rebus solido reperiri corpore posse.
Transit enim fulmen caeli per saepta domorum,
Clamor ut ac uoces; ferrum candescit in igni,
Dissiliuntque fere feruenti saxa uapore;
Cum labefactatus rigor auri soluitur aestu,
Tum glacies aeris flamma deuicta liquescit;
Permanat calor argentum penetraleque frigus,
Quando utrumque manu retinentes pocula rite
Sensimus, infuso lympharum rore superne.
Vsque adeo in rebus solidi nil esse uidetur.
Sed, quia uera tamen ratio naturaque rerum
Cogit, ades, paucis dum uersibus expediamus,
Esse ea quae solido atque aeterno corpore constent,
Semina quae rerum primordiaque esse docemus,
Vnde omnis rerum nunc constet summa creata.

Principio, quoniam duplex natura duarum
Dissimilis rerum longe constare repertast—
Corporis, atque loci, res in quo quaeque geruntur,
Esse utramque sibi per se puramque necessest.

(i) (a) Nam, quacumque uacat spatium, quod inane uocamus,
Corpus ea non est; qua porro cumque tenet se Corpus, ea vacuum nequaquam constat inane. Sunt igitur solida ac sine inani corpora prima. 510

(b) Praeterea, quoniam genitis in rebus inanest, Materiem circum solidam constare necessest; Nec res ulla potest uera ratione probari Corpore inane suo celare atque intus habere, Si non, quod cohibet, solidum constare relinquas: 515 Id porro nil esse potest nisi materiai Concilium, quod inane queat rerum cohibere. (Materies igitur, solido quae corpore constat, Esse aeterna potest, cum cetera dissoluantur.)

(ii) (a) Tum porro, si nil esset quod inane uocaret, 520 Omne foret solidum; nisi, contra, corpora certa Essent, quae loca complerent quaccumque tenerent, Omne quod est spatium, vacuum constaret inane. Alternis igitur nimirum corpus inani Distinctumst, quoniam nec plenum nauiter extat 525 Nec porro vacuum. Sunt ergo corpora certa, Quae spatium pleno possint distinguere inane. Haec neque dissolui plagis extrinsecus icta Possunt, nec porro penitus penetrata retexi, Nec ratione queunt alia temptata labare; 530 Id quod iam supra tibi paullo ostendimus ante. Nam neque collidi sine inani posse uidetur Quicquam, nec frangi, nec findi in bina secando, Nec capere umorem neque item manabile frigus Nec penetralem ignem, quibus omnia conficiuntur. 535 Et quo quaeque magis cohibet res intus inane, Tam magis his rebus penitus temptata labascit. Ergo, si solida ac sine inani corpora prima

520 uocaret Q, ucaret O, uacaret O corr.
Sunt ita uti docui, sint haec aeterna necesset.

(b) Praeterea, nisi materies aeterna fuisset,
Antehac ad nilum penitus res quaeque redissent,
De niloque renata forent quaecumque uidemus.
At, quoniam supra docui nil posse creari
De nilo, neque quod genitum est ad nil reuocari,
Esse inmortali primordia corpore debent,
Dissolui quo quaeque supremo tempore possint,
Materies ut suppeditet rebus reparandis.
Sunt igitur solida primordia simplicitate,
Nec ratione queunt alia seruata per aeuom
Ex infinito iam tempore res reparare.

(i) Denique, si nullam finem natura parasset
Frangendis rebus, iam corpora materiai
Vsque redacta forent, aevo frangente priore,
Vt nil ex illis a certo tempore posset
Conceptum summum aetatis peruadere ad auctum. 555
Nam quiduis citius dissolui posse uidemus
Quam rursus refici; quapropter longa dies et
Infinita aetas antecti temporis omnis
Quod fregisset adhuc, disturbans dissoluensque,
Numquam relicuo reparari tempore posset. 560
At nunc nimirum frangendi reddita finis
Certam manet, quoniam refici rem quamque uidemus,
Et finita simul generatim tempora rebus
Stare, quibus possint aeui contingere florem.

(ii) Huc accedit, uti, solidissima materiai
Corpora cum constant, possint tamen omnia reddi,
Mollia quae fiunt, aer, aqua, terra, vapores, Quo pacto fiunt, et qua ui quaque gerantur, Admixtum quoniam semel est in rebus inane. At contra, si mollia sint primordia rerum, Vnde queant ualidi silices ferrumque creari, Non poterit ratio reddi; nam funditus omnis Principio fundamenti natura carebit. Sunt igitur solida pollentia simplicitate, Quorum condenso magis omnia conciliatu Artari possunt ualidasque ostendere uiris.  

(iii) Porro, si nullast frangendis reddita finis Corporibus, tamen ex aeterno tempore quaeque Nunc etiam superare necessest corpora rebus, Quae nondum clueant ullo temptata periculo: At quoniam fragili natura praedita constant, Discrepat aetemum tempus potuisse manere, Innumerabilibus plagis uexata per aeuom.  

(iv) Denique, iam quoniam generatim reddita finis Crescendi rebus constat uitamque tenendi, Et quid quaeque queant per foedera naturali, Quid porro nequeant, sancitum quandoquidem exstat, Nec commutatur quicquam—quin omnia constant Vsque adeo, uariae uolucres ut in ordine cunctae Ostendant maculas generalis corpore inesse, Immutabili' materiae quoque corpus habere Debent nimirum. Nam si primordia rerum Commutari aliqua possent ratione reuicta, Incertum quoque iam constet, quid possit oriri, Quid nequeat, finita potestas denique cuique Quanam sit ratione atque alte terminus haerens; Nec toties possint generatim saecla referre Naturam, mores, uictum, motusque parentum. 

591 Immutabili' Lachmann, Immutabiles OQ.
(i) Tum porro, quoniam est extremum quodque cacumen Corporibus, quod iam nobis minimum esse uidetur,
Debet item ratione pari minimum esse cacumen
Corporis illius, quod nostri cernere sensus
Iam nequeunt. Id nimirum sine partibus exstat,
Et minima constat natura, nec fuit umquam
Per se secretum, neque posthac esse ualebit,
Alterius quoniamst ipsum pars primaque et una;
Inde aliae atque aliae similes ex ordine partes
Agmine condenso naturam corporis explent;
Quae quoniam per se nequeunt constare, nesesest
Haerere unde queant nulla ratione reuelli.
Sunt igitur solida primordia simplicitate,
Quae minimis stipata cohaerent partibus arte,
Non ex illarum conuentu conciliata,
Sed magis aeterna pollentia simplicitate,
Vnde neque auelli quicquam neque deminui iam
Concedit natura, reseruans semina rebus.

(ii) Praeterea, nisi erit minimum, paruissima quaeque
Corpora constabunt ex partibus infinitis,
Quippe ubi dimidiae partis pars semper habebit
Dimidiam partem, nec res prae finiet ulla.
Ergo rerum inter summam minimamque quid escit?
Nil erit ut distet; nam quamuis funditus omnis
Summa sit infinita, tamen, paruisima quae sunt,
Ex infinitis constabunt partibus aeque.
Quod quoniam ratio reclamat uera negatque
Credere posse animum, uictus fateare nesesest
Esse ea, quae nullis iam praedita partibus exstent
Et minima constent natura. Quae quoniam sunt,

599 versus qui sequuntur suppleuit Munro.
604 sic interpunxit Giussani.
DE RERVM NATVRA

Illa quoque esse tibi solida atque aeterna fatendum.

(iii) Denique, si minimas in partis cuncta resolui
Cogere consuesset rerum natura creatrix,
Iam nil ex illis eadem reparare ualeret,
Propterea quia, quae nullis sunt partibus aucta,
Non possunt ea quae debet genitalis habere
Materies—uarios conexus, pondera, plagas,
Concursus, motus, per quae res quaeque geruntur.

Quapropter, qui materiem rerum esse putarunt

Ignem, atque ex igni summam consistere solo,
Magno opere a uera lapsi ratione uidentur.
Heraclitus init quorum dux proelia primus,
Clarus ob obscuram linguam magis inter inanis
Quamde grauis inter Graios, qui uera requirunt.
Omnia enim stolidi magis admirantur amantque,
Inuersis quae sub uerbis latitantia cernunt,
Veraque constituunt quae belle tangere possunt
Auris, et lepido quae sunt fucata sonore.

Nam, cur tam uariae res possint esse requiro,
Ex uno si sunt igni puroque creatae.

(i) Nil prodesset enim calidum denserier ignem
Nec rarefieri, si partes ignis eandem
Naturam, quam totus habet super ignis, haberent.
Acrior ardor enim conductis partibus esset,
Languidior porro disiectis disque sipatis.
Amplius hoc fieri nil est quod posse rearis
Talibus in causis, nedum uariantia rerum
Tanta queat densis rarisque ex ignibus esse.
Id quoque, si faciant admixtum rebus inane,
Denseri poterunt ignes rarique relinqui.
Sed quia multa sibi cernunt contraria *nasci*,
Ardua dum metuunt, amittunt uera uiuai, [659]
Et fugitant in rebus inane relinquere purum; [658]
Nec rursum cernunt, exempto rebus inani,
Omnia denseri, fierique ex omnibus unum
Corpus, nil ab se quod possit mittere raptim;
Aestifer ignis uti lumen iacit atque uaporem,
*Ut uideas non e stipatis partibus esse.

(ii) Quodsi forte alia credunt ratione potesse 665
Ignis in coetu stinging mutareque corpus,
Scilicet ex nulla facere id si parte reparcent,
Occidet ad nilum nimirum funditus ardor
Omnis, et e nilo fient quaecumque creantur.
Nam, quodcumque suis mutatum finibus exit,
Continuo hoc mors est illius quod fuit ante.
Proinde aliquid superare necesse est incolume ollis,
Ne tibi res redeant ad nilum funditus omnes,
De niloque renata uigescat copia rerum.
Nunc igitur, quoniam certissima corpora quaedam 675
Sunt, quae conservant naturam semper eandem,
Quorum abitu aut aditu mutatoque ordine mutant
Naturam res et convertunt corpora sese,
Scire licet non esse haec ignea corpora rerum.
Nil referret enim quaedam decedere, abire, 680
Atque alia attribui, mutarique ordine quaedam,
Si tamen ardoris naturam cuncta tenerent;
Ignis enim foret omnimodis quodcumque crearent.
Verum, ut opinor, itast: sunt quaedam corpora, quorum

657 nasci *Munro, musae O, Musae Ernout, mu Q.*
658, 659 *transposui.*
666 coetu *Ponlanus, coetus Q.*
Concursus, motus, ordo, positura, figuraae

Efficiunt ignis, mutatoque ordine mutant
Naturam, neque sunt igni simulata neque ulli
Praeterea rei, quae corpora mittere possit
Sensibus, et nostros adiectu tangere tactus.

Dicere porro ignem res omnis esse, neque ullam
Rem ueram in numero rerum constare nisi ignem,
Quod facit hic idem, perdelirum esse uidetur.

(i) Nam contra sensus ab sensibus ipse repugnat,
   Et labefactat eos, unde omnia credita pendent,
   Unde hic cognitus est ipsi quem nominat ignem.
Credit enim sensus ignem cognoscere uere,
Cetera non credit, quae nilo clara minus sunt.
Quod mihi cum uanum, tum delirum esse uidetur.
Quo referemus enim? Quid nobis certius ipsis
Sensibus esse potest, qui uera ac falsa notemus?

(ii) Praeterea, quare quisquam magis omnia tollat
   Et uelit ardoris naturam linquere solam,
   Quam neget esse ignis, quiduis tamen esse relinquat?
   Aequa uidetur enim dementia dicere utrumque.

Quapropter, qui materiem rerum esse putarunt
Ignem, atque ex igni summam consistere posse,
Et qui principium gignundis aera rebus
Constituere, aut umorem quicumque putarunt
Fingere res ipsum per se, terramue creare
Omnia et in rerum naturas uertier omnis,
Magno opere a uero longe derrasse uidentur.

703 quiduis supplavit Lachmann.
Post 704 hunc titulum pro versu habet O—neque ignem
    neque aera neque umorem principia esse.
Adde etiam qui conduplicant primordia rerum, 
Aera iungentes igni terramque liquori, 
Et qui quattuor ex rebus posse omnia rentur 
Ex igni, terra atque anima procrecere et imbri. 715
Quorum Acragantinus cum primis Empedocles est, 
Insula quem triquetris terrarum gessit in oris, 
Quam fluitans circum magnis anfractibus aequor 
Ionium glaucis aspargit uirus ab undis, 
Angustoque fretu rapidum mare diuidit undis 720 
Italiae terrarum oras a finibus eius.
Hic est uasta Charybdis, et hic Aetnaea minantur
Murmura flammarum rursus se colligere iras, 
Faucibus eruptos iterum uis ut uomat ignis, 
Ad caelumque ferat flammai fulgura rursum. 725
Quae cum magna modis multis miranda uidetur 
Gentibus humanis regio uisendaque fertur, 
Rebus opima bonis, multa munita uurum ui, 
Nil tamen hoc habuisse uiro praecelarius in se 
Nec sanctum magis et mirum carumque uidetur. 730
Carmina quin etiam diuini pectoris eius 
Vociferantur et exponunt praecelara reperta, 
Vt uix humana uideatur stirpe creatus.

Hic tamen, et supra quos diximus, inferiores
Partibus egregie multis multoque minores, 735
Quamquam, multa bene ac diuinitus inuenientes, 
Ex adyto tamquam cordis responsa dedere 
Sanctius et multo certa ratione magis quam 
Pythia, quae tripodi a Phoebi lauroque profatur, 
Principiis tamen in rerum fecere ruinas, 740
Et grauiiter magni magno cecidere ibi casu;
(i) Primum, quod motus, exempto rebus inani,
Constituunt, et res mollis rarasque relinquunt,
Aera, rorem, ignem, terras, animalia, fruges,
Nec tamen admiscent in eorum corpus inane; 745

(ii) Deinde quod omnino finem non esse secundis
Corporibus faciunt neque pausam stare fragori,
Nec prorsum in rebus minimum consistere quicquam;
Cum uideamus id extremum cuiusque cacumen
Esse, quod ad sensus nostros minimum esse uidetur, 750
Conicere ut possis ex hoc, quae cernere non quis,
Extremum quod habent, minimum consistere et illis.

(iii) Huc accedit item, quoniam primordia rerum
Mollia constituant, quae nos natiua uidemus
Esse et mortali cum corpore funditus, utqui 755
Debeat ad nilum iam rerum summa reuerti
De niloque renata uigescere copia rerum:
Quorum utrumque quid a uero iam distet habebis.

(iv) Deinde inimica modis multis sunt atque ueneno
Ipsa sibi inter se; quare aut congressa peribunt, 760
Aut ita diffugient ut, tempestate coacta,
Fulmina diffugere atque imbris uentosque uidemus.

(i) Denique, quattuor ex rebus si cuncta creantur
Atque in eas rursum res omnia dissoluuntur,
Qui magis illa queunt rerum primordia dici 765
Quam contra res illorum, retroque putari?
Alternis gignuntur enim, mutantque colorem
Et totam inter se naturam tempore ab omni.

(ii) Sin ita forte putas ignis terraeque coire 770
Corpus et aeras auras roremque liquoris,
Nil in concilio naturam ut mutet eorum,
Nulla tibi ex illis poterit res esse creatā,
Non animans, non exanimo cum corpore, ut arbor.
Quīppesuamquidqueincoetuvariantisacerui
Naturam ostendet, mixtusque uidebitur aer
Cum terrasimul atque ar dor cum rore manere.
At primordia gignundis in rebus oportet
Naturam clandestinam caecamque adhibere,
Emineat nequid, quod contra pugnet et obstet
Quominus esse queat propriquodcumquecensur.

Quin etiam repetunt a caelo atque ignibus eius,
Et primum faciunt ignem se uertere in auras
Aeris, hinc imbrem gigni, terramque creāri
Ex imbri, retroque a terracunctacuerti—
Vmoremprium, post aera, deinde calorem;
Nec cessare haec inter se mutare, meare
A caelo ad terram, de terra ad sidera mundi.
Quod facere haud ullo debent primordia pacto.
Immutabile enim quiddam superare nessesst,
Ne res ad nilum redigantur funditus omnes.
Nam, quodcumque suis mutatum finibus exit,
Continuohochmors est illius quod fuit ante.
Quapropter, quoniam quae paulo diximus ante
In commutatum ueniunt, constare nessesst
Ex aliis ea, quae nequeant convuertier usquam,
Ne tibi res redeant ad nilum funditus omnes.
Quin potius, tali natura praedita, quaedam
Corpora constitutas, ignem si forte creārint,
Posse eadem, demptis paucis paucisque tributis,
Ordine mutato et motu, facere aeris auras,
Sic alias aliis rebus mutarier omnis?
‘At manifesta palam res indicat,’ inquis ‘in auras Aeris e terra res omnis crescere aliquae;
Et nisi tempestas indulget tempore fausto
Imbribus, ut tabe nimborum arbusta uacillent,
Solque sua pro parte fouet tribuitque calorem,
Crescere non possint fruges, arbusta, animantes.’
Scilicet; et nisi nos cibus aridus et tener umor
Adiuet, amisso iam corpore, uita quoque omnis
Omnibus e neruis atque ossibus exsoluatur.
Adiutamur enim dubio procul atque alimur nos
Certis ab rebus, certis aliae atque aliae res.
Nimirum quia multa modis communia multis
Multarum rerum in rebus primordia mixta
Sunt, ideo uariis uariae res rebus aluntur.
Atque eadem magni refert primordia saepe
Cum quibus et quali positura contineantur,
Et quos inter se dent motus accipiantque;
Namque eadem caelum, mare, terras, flumina, solem
Constituunt, eadem fruges, arbusta, animantis;
Verum aliis alioque modo commixta mouentur.
Quin etiam passim nostris in uersibus ipsis
Multa elementa uides multis communia uerbis,
Cum tamen inter se uersus ac uerba necessest
Confiteare et re et sonitu distare sonanti.
Tantum elementa queunt, permutato ordine solo.
At rerum quae sunt primordia, plura adhibere
Possunt, unde queant uariae res quaeque creari.

Nunc et Anaxagorae scrutemur homoeomerian,
Quam Grai memorant, nec nostra dicere lingua
Concedit nobis patrii sermonis egestas;
Sed tamen ipsam rem facilest exponere uerbis.
LIBER PRIMVS

Principio, rerum quom dicit homoeomerian,
Ossa uidelicet e pauxillis atque minutis
Ossibus hic, et de pauxillis atque minutis
Visceribus uiscus gigni, sanguenque creari
Sanguinis inter se multis coeuntibus' guttis,
Ex aurique putat micis consistere posse
Aurum, et de terris terram concrescere paruis,
Ig nibus ex ignis, umorem umoribus esse;
Cetera consimili fingit ratione putatque.

(i) Nec tamen esse ulla idem ex parte in rebus inane
(ii) Concedit, neque corporibus finem esse secandis.
Quare in utraque mihi pariter ratione uidetur
Errare atque illi, supra quos diximus ante.
(iii) Adde quod imbecilla nimis primordia fingit,
Si primordia sunt, simili quae praedita constant
Natura atque ipsae res sunt, aequaque laborant
Et pereunt, neque ab exitio res ulla refrenat.
Nam quid in oppressu ualido durabit eorum,
Ut mortem effugiat, leti sub dentibus ipsis?
Ignis an umor an aura? Quid horum? Sanguen an ossa?
Nil, ut opinor, ubi ex aequo res funditus omnis
Tam mortalis erit quam quae manifesta uidemus
Ex oculis nostris aliqua ui uicta perire.
At neque reccidere ad nilum res posse, neque autem
Crescere de nilo testor res ante probatas.

Praeterea, quoniam cibus auget corpus alitque,
(a) Scire licet nobis uenas et sanguen et ossa
Et nervos alienigenis ex partibus esse;
Siue cibos omnis commixto corpore dicent

839 auraeque Bentley. 840 Auram Bentley.
Post 860 uersum suppleuit Lambinus.
Esse, et habere in se neruorum corpora parua
Ossaque et omnino uenas partisque cruoris,
Fiet uti cibus omnis, et aridus et liquor, ipse
Ex alienigenis rebus constare putetur—
Ossibus et neruis sanieque et sanguine mixto.

(b) Praeterea, quaecumque e terra corpora crescunt
Si sunt in terris, terram constare necessest
Ex alienigenis, quae terris exoriuntur.
Transfer item, totidem uerbis utare licebit.

(c) In lignis si flamma latet fumusque cinisque,
Ex alienigenis consistant ligna necessest,
Ex alienigenis, quae lignis exoriuntur.

Linquitur hic quaedam latitandi copia tenuis,
Id quod Anaxagoras sibi sumit, ut omnibus omnis
Res putet inmijxtas rebus latitare, sed illud
Apparere unum, cuius sint plurima mixta
Et magis in promptu primaque in fronte locata.
Quod tamen a uera longe ratione repulsumst.

(a) Conueniebat enim, fruges quoque saepe, minaci
Robore cum saxi franguntur, mittere signum
Sanguinis aut aliud, nostro quae corpore aluntur,
Cum lapidi in lapidem terimus, manare cruorem:
Consimili ratione herbas quoque saepe decebant
Et latices dulcis guttas similique sapore
Mittere, lanigerae quali sunt ubere lactis;
(b) Scilicet et glebis terrarum saepe friatis

864 sic interpunxit Giussani.
866 mixto Lachmann, mixta OQ.
873 Praeterea tellus quae corpora cumque alit auget OQ, seclusit Giussani.
885 herbas Marullus, herbis OQ.
887 quali Q, qualis O.
Herbarum genera et fruges frondesque uideri
Dispertita inter terram latitare minute;
(c) Postremo in lignis cinerem fumumque uideri,
Cum praefracta forent, ignisque latere minutos.
Quorum nil fieri quoniam manifesta docet res,
Scire licet non esse in rebus res ita mixtas;
Verum semina multimodis inmixta latere
Multarum rerum in rebus communia debent.

'At saepe in magnis fit montibus' inquis 'ut altis
Arboribus uicina cacumina summa terantur
Inter se, ualidis facere id cogentibus Austris,
Donec flammai fulserunt flore coorto.'
Scilicet; et non est lignis tamen insitus ignis,
Verum semina sunt ardoris multa, terendo
Quae cum confluxere, creant incendia siluis.
Quod si facta foret siluis abscondita flamma,
Non possent ullum tempus celarier ignes,
Conficerent uolgo siluas, arbusta cremarent.
Jamne uides igitur, paulo quod diximus ante,
Permagni referre, eadem primordia saepe
Cum quibus et quali positura contineantur,
Et quos inter se dent motus accipiantque,
Atque eadem, paulo inter se mutata, creare
Ignis et lignum? Quo pacto uerba quoque ipsa
Inter se paulo mutatis sunt elementis,
Cum ligna atque ignis distincta uoce notemus.
Denique iam, quaecumque in rebus cernis apertis
Si fieri non posse putas, quin materiai
Corpora consimili natura praedita fingas,
Hac ratione tibi pereunt primordia rerum:
Fiet uti risu tremulo concussa cachinnent,
Et lacrimis salsis umectent ora genasque.

Nunc age, quod superest cognosce et clarius audi!
Nec me animi fallit quam sint obscura; sed acri
Percussit thyrso laudis spes magna meum cor,
Et simul incussit suauem mi in pectus amorem
Musarum, quo nunc instinctus mente uigenti
Auia Pieridum peragro loca, nullius ante
Trita solo. Iuuat integros accedere fontis
Atque haurire, iuuatque nouos decerpere flores,
Insignemque meo capiti petere inde coronam,
Unde prius nulli uelarint tempora Musae:
Primum, quod magnis doceo de rebus, et artis
Religionum animum nodis exsolvere pergo;
Deinde, quod obscura de re tam lucida pango
Carmina, musaeo contingens cuncta lepore.
Id quoque enim non ab nulla ratione uidetur;
Sed, ueluti pueris absinthia taetra medentes
Cum dare conantur, prius oras pocula circum
Contingunt mellis dulci flauoque liquore,
Vt puerorum aetas improuida ludificetur
Laborum tenus, interea perpotet amarum
Absinthi laticem deceptaque non capiatur,
Sed potius tali pacto recreata ualescat,
Sic ego nunc, quoniam haec ratio plerumque uidetur
Tristior esse quibus non est tractata, retroque
Volgus abhorret ab hac, uolui tibi suauiloquenti
Carmine Pierio rationem exponere nostram,
Et quasi musaeo dulci contingere melle,
Si tibi forte animum tali ratione tenere
Versibus in nostris possem, dum perspicis omnem
Naturam rerum, qua constet compta figura.
Sed quoniam docui solidissima materiae
Corpora perpetuo volitare inuicta per aeuom,
Nunc age, summam quaedam sit finis eorum
Necne sit evoluamus; item quod inane repertumst
(Seu locus ac spatum, res in quo quaeque gerantur) 955
Peruideamus utrum finitum funditmus omne
Constet, an immensum pateat uasteque profundum.

Omne quod est igitur nulla regione uiarum
(i) Finitumst; namque extremum debebat habere:
Extremum porro nullius posse uidentur 960
Esse, nisi ultra sit quod finiat; ut uideatur,
Quo non longius haec sensus natura sequatur.
Nunc extra summam quoniam nil esse fatendum,
Non habet extremum, caret ergo fine modoque.
Nec refert, quibus adsistas regionibus eius; 965
Vsque adeo, quem quisque locum possedit, in omnis
Tantundem partis infinitum omne relinquit.

(ii) Praeterea, si iam finitum constituat
Omne quod est spatium, siquis procurrat ad oras
Vltimus extremas iaciatque volatile telum, 970
Id ualidis utrum contortum uiribus ire
Quo fuerit missum mauis longeque uolare,
An prohibere aliquid censes obstareque posse?
Alterutrum fatcaris enim sumasque necessest.
Quorum utrumque tibi effugium praecedit, et omne 975
Cogit ut exempta concessas fine patere.
Nam, siue est aliquid quod probeat officiatque
Quominu' quo missum est ueniat finique locet se,
Siue foras fertur, non est a fine profectum.
Hoc pacto sequar atque, oras ubicumque locaris 980
Extremas, quaeram quid telo denique fiat.
Fiet uti nusquam possit consistere finis,
Effugiumque fugae prolatet copia semper.

(iii) Praeterea, spatium summai totius omne
Vndique si inclusum certis consisteret oris
Finitumque foret, iam copia materiai
Vndique ponderibus solidis confluxet ad imum,
Nec res ulla geri sub caeli tegmine posset,
Nec foret omnino caelum neque lumina solis,
Quippe ubi materies omnis cumulata iaceret,
Ex infinito iam tempore subsidendo.
At nunc nimirum requies data principiorum
Corporibus nullast, quia nil est funditus imum,
Quo quasi confluere et sedes ubi ponere possint.
Semper in adsiduo motu res quaeque geruntur
Partibus e cunctis, infernaque suppeditantur
Ex infinito cita corpora materiai.
Est igitur natura loci spatiumque profundi,
Quod neque clara suo percurrere fulmina cursu
Perpetuo possint aei labentia tractu,
Nec prorsum facere ut restet minus ire meando:
Vsque adeo passim patet ingens copia rebus,
Finibus exemptis in cunctas undique partis.

(iv) Postremo, ante oculos res rem finire uidetur:
Aer dissaepit collis atque aera montes;
Terra mare et contra mare terras terminat omnis;
Omne quidem uero nil est quod finiat extra.
Ipsa modum porro sibi rerum summa parare
Ne possit, natura tenet, quae corpus inani
Et quod inane autem est finiri corpore cogit,
Vt sic alternis infinita omnia reddat,
Aut etiam alterutrum, nisi terminet alterum eorum,

1004–1007 hic posuit Giussani, post 997 habent codices,
post 983 posuit Munro.
Simplice natura pateat tamen immoderatum.

Nec mare nec tellus neque caeli lucida templa
Nec mortale genus nec diuum corpora sancta
Exiguum possent horai sistere tempus.
Nam, dispulsa suo de coetu, materiai
Copia ferretur magnum per inane soluta,
Siue adeo potius numquam concreta creasset
Vllam rem, quoniam cogi disiecta nequisset.
Nam certe neque consilio primordia rerum
Ordine se suo quaeque sagaci mente locarunt,
Nec quos quaeque darent motus pepigere profecto;
Sed, quia multa modis multis mutata per omne
Ex infinito uexantur percita plagis,
Omne genus motus et coetus experiundo
Tandem deueniunt in talis disposituras,
Qualibus haec rerum consistit summa creada;
Et multos etiam magnos seruata per annos,
Vt semel in motus coniectast conuenientis,
Efficit ut largis auidum mare fluminis undis
Integrent amnes, et solis terra uapore
Fota nouet fetus, summissaque gens animantum
Floreat, et uiuant labentes aetheris ignes.
Quod nullo facerent pacto, nisi material
Ex infinito suboriri copia posset,
Vnde amissa solent reparare in tempore quaeque.
Nam ueluti priuata cibo natura animantum
Diffluuit, amittens corpus, sic omnia debent
Dissolui, simul ac defect suppeditare
Materies, aliqua ratione auersa uiai.
Nec plagae possunt extrinsecus undique summam

Post 1013 lacunam esse probuit Madvig.
Conseruare omnem, quaecumque est conciliata:
Cudere enim crebro possunt partemque morari,
Dum ueniant aliae ac suppleri summa queatur; 1045
Interdum resilire tamen coguntur, et una
Principiis rerum spatium tempusque fugai
Largiri, ut possint a coetu libera ferri;
Quare, etiam atque etiam, suboriri multa necessest.
Et tamen, ut plagae quoque possint suppetere ipsae, 1050
Infinita opus est uis undique materiai.

Illud in his rebus longe fuge credere, Memmi,
In medium summae, quod dicunt, omnia niti,
Atque ideo mundi naturam stare sine ullis
Ictibus externis, neque quoquam posse resolui 1055
Summa atque ima, quod in medium sint omnia nixa;
(Ipsum si quicquam posse in se sistere credis!)
Et quae pondera sunt sub terris, omnia sursum
Nitier, in terraque retro requiescere posta,
Vt per aquas quae nunc rerum simulacra uidemus. 1060
Et simili ratione animalia suppa uagari
Contendunt, neque posse e terris in loca caeli
Reccidere inferiorea, magis quam corpora nostra
Sponte sua possint in caeli templae uolare;
Illi cum uideant solem, nos sidera noctis 1065
Cernere, et alternis nobiscum tempora caelo
Diuidere, et noctes parilis agitare diebus.
Sed uanus stolidis haec error somnia finxit,
Amplexi quod habent peruersa rem ratione.
Nam medium nil esse potest, ubi summa profundist 1070
Infinita; neque omnino, si iam medium sit,
Possit ibi quicquam consistere eam magis ob rem
Quam quauis alia longe ratione repelli.
Omnis enim locus ac spatium, quod inane uocamus,
Per medium, per non medium, concedere debet
Aeque ponderibus, motus quacumque feruntur.
Nec quisquam locus est, quo corpora cum uenerunt,
Ponderis amissa ui possint stare in inani;
Nec quod inane autem est ulli subsistere debet,
Quin, sua quod natura petit, concedere pergat. 1080
Haud igitur possunt tali ratione teneri
Res in concilio, medii cuppedine uictae.

Praeterea, quoniam non omnia corpora fingunt
In medium niti, sed terrarum atque liquoris,
Vmorem ponti magnasque e montibus undas, 1085[1086]
Et quasi terreno quae corpore contineantur, 1085
At contra tenuis exponunt aeris auras
Et calidos simul a medio differrier ignis,
Atque ideo totum circum tremere aethera signis
Et solis flammam per caeli caerula pasci,
Quod calor a medio fugiens se ibi colligat omnis;
Nec prorsum arboribus summos frondescere ramos
Posse, nisi a terris paulatim cuique cibatum

1068-1075 hos versus omittit Q, mutilos habet O, expleuit Munro.
1085, 1086 transposuit Giussani.
1093-1102 spatium octo uersuum inane relinguit O.
Ne uolucrit ritum flammarum moenia mundi
Diffugiant subito magnum per inane soluta,
Et ne cetera consimili ratione sequantur,
Neue ruant caeli tonitralia templae superne,
Terraque se pedibus raptim subducat, et omnis,
Inter permixtas rerum caelique ruinas
Corpora soluentes, abeat per inane profundum,
Temporis ut puncto nil extet reliquiarum
Desertum praeter spatium et primordia caeca.
Nam quacumque prius de parti corpora desse
Constitues, haec rebus erit pars ianua leti,
Hac se turba foras dabit omnis materiali.

Haec si pernosces, parua perductus opella
Cetera iam poteris per te tute ipse videre.
Namque alid ex alio clarescet, nec tibi caeca
Nox iter eripiet, quin ultima naturai
Peruideas: ita res accendent lumina rebus.

1105 tonitralia Lambinus, tonetralia OQ. 1114 si Munro, sic OQ. Post 1114 uersum supplieuit Munro.
NOTES

1-148. (i) Lucretius died, leaving his poem unfinished. The view, held by Lachmann and Munro, that the earlier books were left in a completed state, is no longer tenable: they also contain, as will be shown in the case of Book i, many marks of imperfection: see too p. xvi. It is therefore not surprising that what may be called the preface (ll. 1-148) is in an unsatisfactory condition, so far as the arrangement of paragraphs is concerned; for it is probable that the writer would settle his preface last. Proof of this will be given below: see esp. notes at ll. 50 and 146. Some rearrangement of these paragraphs has been suggested. Giussani, for instance, adopts this order: 1-43; 62-79; lacuna; 136-145; 50-61; 80-135. This seems to me a more logical order than that given in the Mss. But it is unsafe to interfere with the text; for we run the risk of correcting not the scribes who copied the poem but the author himself.

(ii) All the six books of the De Rerum Natura contain some introductory matter, generally consisting of two parts: (1) a panegyric on Epicurus; (2) a statement of the matters to be treated of. In this respect Book i is like the others; but also, as being the introduction to the whole poem, it begins with two topics which are not repeated in any later book: (1) an invocation, to Venus; (2) a dedication, to Memmius.

The invocation to Venus did not pass uncriticised even in ancient times, as we shall see (n. to l. 44). Epicurus taught that the gods take no interest in human affairs. Hence Lucretius, as a follower of Epicurus, is inconsistent with his own principles, when he asks Venus to aid him in the writing of his poem. Had he been content to identify Venus with voluptas, and to use her name in order to personify the principle of life in the universe, it might pass; but he goes far beyond this. When he feigns to believe (ll. 32 foll.) that Venus and Mars are lovers, he gives his sanction to one of the most scandalous stories of the gods. There is only one way of accounting for this remarkable inconsistency. To the ancients—and not to them only, as Milton's Lycidas will prove—mythology was the very stuff of poetry; and Lucretius, though strict elsewhere, was unwilling, at
the outset of his poem, in what Tennyson calls his 'rich proemion,' to sacrifice the poetical advantage which he could draw from mytho-
logical description.

1-43. O Venus, source of life, harbinger of spring, mistress of the
universe, aid me in the writing of this poem for Memmius. Plead
with thy lover, Mars, that peace may prevail over the world; in time
of war, I cannot write, and Memmius cannot hear, with a mind at
ease.

1. Aeneadum genetrix: Lucr. strikes a national note: Venus,
mother of Aeneas, is also mother of his descendants, the Roman
people.

Just as the Aeneid is often referred to by Latin poets as Arma
uirumque, and Book i of Propertius as Cynthia, so the poem of
Lucr. is referred to by Ovid Trist. ii 261 sumpserit, Aeneadum
genetrix ubi prima (if she takes up the work, where Aeneadum
genetrix comes first).

genetrix is the true spelling in spite of genitor: so meritus but
meretrix.

uoluptas = ἡδονή. It is characteristic of Lucr. to put this word in
his first line. The chief grounds on which Epicurus was attacked
were these: (1) his adoption of pleasure (ἡδονή) as the chief good;
(2) his denial of Providence. So the Stoic Hierocles (ap. Aul.
Gell. ix 5) ἡδονή τέλος, πόρνης δόγμα: οὐκ ἐστιν πρόνοια, οὐδὲ πόρνης
δόγμα (too bad even for a harlot). Far from concealing this un-
popular dogma, Lucr. gives it the utmost prominence: indeed, it is
possible that his determination to bring in ἡδονή suggested the
whole of this invocation.

2. alma, 'nurturing,' connected with alere : applied also to nutrix
(v 230), water (ii 390), Pallas (vi 750).

caeli, followed by mare and terras: the three great divisions of
our world, repeated ll. 7-9 and often throughout the poem.

signa, 'stars,' whose silent steady motion is often described by the
verb labi: e.g. l. 1034.

3. nauigerum, frugiferentis: Lucr. is the last of the Latin poets
to use, and to invent, compound words of this type. Virgil clearly
felt that they were unsuited to the language, and Quintilian agrees
with him, saying that such words, admirable in Greek, are often
ludicrous in Latin; i 5, 70 res tota magis Graecos decet; ...ideoque
cum κυράφενα μιράτι συμνο, ‘incursircernicum’ nix a risu defendimus. This limitation has descended to the Romance languages: how inferior French is to German in the power of forming compound words!

terras frugiferentis: the rhythm is notable. Virgil would write terras quae fr., and later poets followed him in this matter. But Lucr. prefers that the fourth foot should be a spondee and should end with the end of a word: of the first ten lines seven are on this model. In consequence of this practice, his hexameter lacks variety, compared with Virgil's, but gains a force and stability of its own.

4. concelebras, 'fillest with thy presence': cf. ii 344 uolucres... qua loca...concelebrant: the verb has generally a plur. subject but is properly used of Venus, because she is omnipresent.

quoniam: the argument is this: Venus must be everywhere, because she creates everything.

animalia: the argument is this: Venus must be everywhere, because she creates everything.

animantum: Lucr. uses animantes as a noun (fem.) equivalent to animalia: the sing. animal he uses only once (v 823).

5. exortum: i.e. from the womb of the mother.

lumina: poetical for lumen: so, esp. in Ovid, corpora for corpus, nomina for nomen etc.

6 foll. Spring is identified with the coming of Venus, because animals mate at that season. So, in a pageant of the seasons, Spring and Venus go together: v 737 it uer et Venus, et Veneris praenuntius ante | pennatus (winged Cupid) graditur.

The winds and clouds of winter flee at her approach.

fugiunt is the main verb: all that precedes is apostrophe.

7. daedala, 'manifold in works': this borrowed word (it is the Greek δαιδάλεος) is sometimes active in Lucr., sometimes passive: it is active here and iv 551 uerborum daedala lingua (the tongue, the deft shaper of words), but passive v 1451 daedala signa ( cunningly wrought statues).

8. submittit, ἀντήσι, 'sends up from beneath.'

aequora ponti, 'the levels of the sea': spring has made it smooth and calm.

10. nam: the proof of the connexion between Venus and Spring follows: it is proved by the love-songs of the birds and the mating of all animals.
species uerna diei = the face of spring: uerna is the emphatic word: diei has nearly the sense of temporis or anni.

11. reserata uiget, 'is unbarred and blowing free': in winter it was locked up in prison by Aeolus: if we admit the existence of Venus, we can make no difficulty over Aeolus.

genitabilis aura Fauoni, 'the birth-favouring breath of the west wind.' Adjectives in -bilis are more often passive; but cf. l. 535 manabile frigus; Virg. Aen. x 481 penetrabile telum.
genitabilis is probably nom.: cf. Catull. 64, 282 aura...secunda Fauoni.

Fauonius is the Latin name of ζέφυρος: it was expected to begin blowing in Italy on Feb. 8 (Pliny Nat. Hist. xvi 93).

13. significant: by beginning to sing.
initum = ἐἰσοδῶν, 'entering in': see n. to l. 383.
14. inde, 'next.'
ferae, 'maddened' by Venus: in Lucr. generally pecudes are the tame animals, opposed to saecla ferarum.

Some read here ferae, pecudes, 'the wild beasts and the tame'; but wild beasts have nothing to do with pabula laeta.

laeta, 'rich': a stock epithet of crops and pastures: it was not confined to poetry but was used even by country people in this sense.

15. ita, lit. 'in such wise': 'for' is a simpler English equivalent.
16. sequitur: the subject, quacque, is placed as object in the relative clause which follows: a constant idiom in Lucr., e.g. ll. 170, 289, 361.
17. denique, 'in short': cf. l. 76: but in Lucr. denique generally = praeterea, and serves to introduce a new argument: cf. l. 238.
19. blandum amorem, 'the spell of love.'
20. saecla is used by Lucr. to supply the plur. of genus, of which most cases are inconvenient or impossible in his metre: thrice only (i 202, iii 948 and 1090) it means 'generations' and denotes a period of time.

21. quoniam etc.: the argument is: 'Since you are the mistress of Nature and the source of all Beauty, make beautiful my poem on Nature, so as to be worthy of your votary, Memmius.'

rerum naturam here means 'the visible universe.'
22. *dias*: the adj. is used thrice by Lucr. with three different meanings: 'bright' here; ii 172 *dia* (= *diuina*) * voluptas*; v 1387 *otia dia* (rest beneath the open sky): cf. *sub diuo*.

*luminis oras*, 'realm of light,' i.e. this world, the antenatal state being one of darkness.

*oras*, lit. 'borders'; but Lucr., and other writers, use it often to denote the space contained between the borders.

23. *laetum*: cf. l. 14: the epithet suits animals as well as vegetables and may be applied metaphorically to a poem.

24. *scribendis uersibus*: dat. of work contemplated.

*esse*, having no emphasis, would not be tolerated at the end of the verse by the Augustan poets: it is their regular practice to pack away the words that matter least in the middle of the verse. But Lucr. often has *esse*, *sunt* etc. in emphatic positions.

25. *de rerum natura*, 'concerning the nature of things': here the phrase = natural science. *Περὶ Φύσεως* was the title of many philosophical works written in the sixth and fifth centuries B.C. By *φύσις* those early enquirers meant 'the primary substance,' later called *ἀρχή*; but a different meaning appears in the title of the poem of Empedocles (b. 500 B.C.), the treatise of Epicurus, and this poem of Lucretius. Lucr. means by it one of the three divisions of philosophy, 'Physics' or natural science, the other two being Ethics and Logic. This is the subject of his poem; his ethical discussions are only incidental; and to Logic he, like his master, paid little attention.

*pangere*, 'to pen': used first by Ennius of poetical composition, and later even in prose: cf. Cic. *ad Fam.* xvi 18, 3 *au pangis aliquid Sophocleum?*; Tac. *Ann.* xiv 16 *pangendi facultas* (skill in writing verse). It is used of writing prose as well as verse.

26. *Memmiadæ nostro*, 'for our son of the Memmii': the patronymic is invented to serve for *Memmio* which the metre will not admit: so Lucr. admits Scipio into his poem under the name of *Scipiadas* (iii 1034): in each case the patronymic has a more imposing sound, but the poet has made a virtue of necessity. The vocative, *Memmi*, which offers no metrical difficulty, he uses often.

Gaius Memmius was a Roman noble and an active politician. As praetor in 58 B.C. he tried to annul the democratic laws passed by Caesar as consul in the previous year (Suet. *Iul.* 20); in 57 he
governed Bithynia as propraetor, and one of his staff was Catullus, so that he was connected with both the great poets of his time. Catullus speaks of him with dislike (10 and 28); Cicero records that he was skilled in Greek literature but contemptuous of Latin (Brutus 247). His political career was not creditable or consistent. Why Lucr. dedicated the poem to him, we do not know: with no reference to this case, L. Stephen (Hours in a Library ii 146) speaks of "that kind of delusion which often leads a mere literary observer to see a lofty intention in the schemes of a selfish politician."

tu, dea: Venus appears on coins of the Memmii; they seem to have taken her for their patron goddess.

28. quo magis: the favour of Venus for Memmius is an additional reason why she should add grace and charm to the poem and make it immortal.

da dictis: Virgil would prefer dictis da: the first l. of the Aeneid ends with Troiae qui primus ab oris, not qui Troiae cet.: see n. to l. 3.

29. moenera militiai: 'works of war' preserves the alliteration. This gen. in -ai is very common in Lucr.: see p. xxiii: for a dat. in ai, see n. to l. 453.

30. omnis belongs to maria as much as to terras.

31. tranquilla pace, 'with peace and quiet.'

32 foll. In the power of vivid description no poet has ever surpassed Lucr.: one might suppose he was here following a picture or marble group, but he needed nothing of the kind to stir his imagination. The passage is imitated by Byron, Childe Harold iv 51.

35. ita, 'so,' in the way described, lying on the lap of Venus.

suspeiciens, 'looking up,' into the face of the goddess: cf. ii 1039 suspicere in caeli...lucida templo.

tereti, 'shapely': an epithet of an object that is both long and round.

reposta = reposta: this contraction is common, but postus for positus is found only in Lucr.: cf. Ovid Fast. ii 63 (to Augustus) templorum positor, templorum saeute repostor.

36. pascit...uisus, ἐκτίθα τοῦς ὄφθαλμοὺς, 'feasts his eyes.'

amore is best taken with auidos:

inhians, 'with open mouth': Munro quotes Esdras i 4, 31 'The king gaped and gazed upon her with open mouth.'
NOTES

37. resupini spiritus, ‘his breath, as he lies back’: eius has to be supplied.

38. corpore: abl. of instrument, with circumfusa.

39. circumfusa, lit. ‘shedding thyself round him,’ i.e. placing thine arms about him: hunc is governed by circum: this verb often describes an embrace, even in prose: cf. Sen. Dial. xii 18, 4 nihil tam recens in cuinisijttain peclore fuit, quod non circumfusus ille permulceat (ille is probably the poet Lucan as a child).

super, ‘from above.’

loquellas: the double l seems the correct spelling, when the preceding syllable is short: so quërella but tütela.

40. Romanis: they are her children: cf. l. 1.

incluta, ‘glorious lady’: like κλυτός, this adj. is applied both to gods and men: Lucr. applies it to Epicurus, in his eyes a divine being (iii 10), and to Memmius (v 8).

41-43. The national note, rare in Lucr., is struck again here. There can be little doubt that he refers to the prospect of civil war. He died, still working at his poem, in 55 B.C., when Caesar was fighting in Gaul and Britain; and acute observers must have known that a struggle was inevitable between the conqueror of Gaul and the Senate whom he had flouted and outraged in his consulship.

41. nos, ‘I,’ not ‘we’: only two persons are in question, Lucr. who writes the poem, and Memmius who is to read it.

agere hoc, ‘to give my mind to this,’ i.e. the writing of my poem: cf. iv 969 (my dreams are always coloured by my work) nos agere hoc autem et naturam quaerere rerum | semper (sc. uidemur). ‘To be inattentive’ is aliud agere, often used by the old commentators of their predecessors.

tempore iniquo: such as an invasion of Italy by Caesar’s veterans.

iniquo, ‘cruel,’ not ‘unjust’: this sense is common both in prose and poetry.

42. aequo refers back to iniquo: Lucr. is excessively fond of this kind of play on words: cf. l. 98 casta inceste; II. 337, 877.

Memmi represents Memmiorum which the metre will not admit.

43. communi saluti means the cause of constitutional government. Memmius was at one time a keen partisan on the side of the Senate: cf. Cic. ad Q. fr. i 2, 16 (the date is Nov. 59 B.C.) praetores habemus
amicissimos, et acerrimos ciius, Domitium, Nigidium, Memmium.
By acerrimus ciius Cic. means exactly what Lucr. means by this verse.

44-49 of the MSS. are omitted in the text. The lines are a quotation from ii 646-651, where Lucr. translates the second of the kτριαί δόξαι (Articles of Belief) of Epicurus, to the effect that the gods have no dealings with men. In order to confute Lucr. out of his own mouth, some ancient reader wrote these lines on his margin; from the margin they crept into the text of the original of all our MSS.

It seems that the intruding verses ousted some others written by Lucr. for this place. For in l. 43 he is addressing Venus; in l. 50 he is addressing Memmius, and no indication of the change is given.

50. *Listen with attention to me, while I set forth the true philosophy. I have two subjects to explain: (1) heaven and the gods; (2) the atoms out of which all things are made. (For these atoms I shall use a variety of names.)*

This paragraph is ill-placed. It is the regular custom of Lucr. to place his praise of Epicurus before the statement of his subject-matter; and it seems especially unlikely in the first Book that he should launch out into technicalities before making the general attack on superstition which follows (62-101).

50. *quod superest = next:* a common formula of transition in Lucr., but not appropriate here unless some lines have been lost: the phrase often begins an apodosis.

51. *animus sagacem,* ‘a keen intellect’: a metaphor from the power of scent in dogs: cf. l. 402. Milton writes ‘sagacious of his quarry’; but in modern English ‘sagacious’ has lost this meaning and suits an elephant better than a dog.

51. *ueram ad rationem,* ‘to the true system’ of philosophy, i.e. that of Epicurus. *ratio,* very common in Lucr., is used by him with many meanings: for this meaning, cf. l. 943, and iii 14 (to Epicurus) *ratio tua.*

52. *disposta:* for the dropping out of i, see n. to l. 35.

53. *sint,* having no emphasis, would not be placed at the end of the clause by an Augustan poet.

53. *contempta relinquas,* ‘you despise and leave untouched’: the
participle is best translated by a verb. Lucr. seems to compare his poem to a feast which he has spread for Memmius: cf. iii 12 dépasci¬mur aurea dicta.

54. summa...deumque, 'the high lore of heaven and of the gods,' i.e. the theory of the heavenly bodies (rà μετέωρα: cf. l. 127) and of the gods: these are combined, because common belief supposes the gods to inhabit the sky. Books v and vi deal with these matters among others.

This order of topics shows that the main object of Lucr. is humanitarian, not scientific. He traced human suffering to false beliefs about the gods and a future life; and science is important only because it upsets these beliefs. In this, of course, he follows Epicurus.

55. incipiam, 'I shall endeavour.'

rerum primordia pandam: the second topic is the Atomic Theory explained in Books i and ii, which shows that divine inter¬position is not necessary, in order to explain the constitution of the universe.

primordia, 'atoms': Lucr. does not use the terms atomi or individua corpora, which are found in other writers: for a single atom, he uses corpus (l. 600). Further, as primordiorum and primordii are excluded by the metre, he regularly uses principiorum, principiis, as gen., dat., and abl. of primordia.

pandam, 'I shall explain.'

56. unde=ex quibus, 'out of which.'

natura: personified, as constantly throughout the poem.

omnis res, 'all created things': the distinction between res (called res genitae l. 511) and primordia is fundamental: all res are composite, being formed of a union of atoms; each atom is one and indivisible.

57. quoue =et in quae, 'and into which': here and often in Lucr. -ue has the sense of -que, the topic being additional, not alternative. In early Latin generally, the distinction between -ue and -que is not as marked as that between or and and.

eadem: fem. sing. agreeing with natura. Thus an ambiguity arises (there are many such in Lucr.), because eadem might be the object of resoluat and agree with perempta; but the sense shows it to be fem. sing.
perempta: in prose Lucr. would have written *peremptas* and so avoided the ambiguity: for the sake of metre, he now continues as if he had written *omnia* in l. 56 and not *omnis res*.

58-61 is a mere note, in which Lucr. tells the reader that he must recognise 'atoms' under the disguise of different names which they will bear in the course of the poem. This variety of names is mainly due to the requirements of metre.

How should these aliases be translated? Munro has a different equivalent for each: e.g. 'matter' for *materies*. In order to keep the argument clear, it is perhaps better to translate *materies* etc. by 'atoms,' wherever this is the actual meaning: cf. ll. 171, 245.

58. *nos*, 'I': he refers solely to his own practice.

*materiem*, ὀλην, 'matter': (of course 'atoms' is inadmissible here).

genitalia corpora rebus, 'bodies (i.e. material particles) which produce created things': the phrase = *corpora quae genitalia rebus sunt*. But the dat. is odd; and it is hard to see why Lucr. did not write *verum* instead.

59. *reddunda in ratione*, 'in philosophical discussion': a technical term in Lucr.: cf. ii 987 *doctis rationem reddere dictis*.

*uocare*, appellare, usurpare: Lucr. seems to imply that he can find at need synonyms for other things as well as atoms: for another series of synonyms, cf. l. 298 foll. There is a well-marked vein of humour in the poem.

*semina*, σπέρματα, 'seeds."


61. corpora prima, 'first bodies,' i.e. primary particles of matter.

*sunt*, 'are formed.'

*omnia* = *res omnes*, 'all created things.'

*primis*, 'as primary particles.'

Five names for atoms have now been given: there is a sixth, often used though not mentioned here, *elementa* = στοιχεῖα; and a seventh, *corpuscula*.

62-79. When mankind lay crushed beneath the weight of Superstition, a man of Greece stood up to defy her and relieve them. By the power of genius he discovered what goes on in the Universe, outside our
world. From him we have learnt the laws of nature and the division set between the possible and the impossible. Hence we in our turn triumph over and stamp on superstition.

62. ante oculos, 'clear to see.'

63. granul sub religione, 'beneath the weight of superstition.' Epicurus taught that gods exist, but that all attempts of man to win their favour or avert their wrath are vain and therefore superstitious.

The first syll. of religio is naturally short: Lucr. lengthens it, as he does the first syll. of reliquiae and some other words, to make them possible in his metre.

64. caput: she is like the Gorgon, Medusa: to look on her head is fatal to men.

ciaeli regionibus: because the gods are popularly supposed to live there.

65. super and instans form a single participle, 'lowering overhead' upon men; and the words are intended to suggest the noun superstition. This kind of play on words is found elsewhere in Lucr.: cf. l. 932, where religionum nodis is lit. 'the knots of tying,' an equivalent for 'the fetters of superstition.' The practice of Aeschylus shows that a pun was not necessarily ludicrous to the ancient mind; nor indeed was it so to some of the moderns: thus Milton says of the ravens which fed Elijah: 'though ravening, taught to abstain from what they brought,' but does not intend to amuse the reader.

66. Graius homo: i.e. Epicurus, a citizen of Athens. It is remarkable that Lucr., though repeatedly declaring the debt of mankind to Epicurus, never mentions his name but once (iii 1042), where he appears as the last and greatest of a list of great men, so that mere allusion is impossible. There is only one explanation of this silence: that the name was too sacred to be written except in case of necessity. This feeling seems personal to Lucr.: of Epicureans in general we are told that they kept pictures of their master in their houses and wore his likeness in rings: in fact, they showed regard and affection for his memory, but not this religious awe.

In giving priority to Epicurus as a scientific discoverer (I. 71), Lucr. is unjust to Democritus (b. 460 B.C.), one of the greatest names in the history of scientific enquiry; the Atomic Theory was taken over from him, with slight modification, by Epicurus. But Lucr. is
thinking of the ethical theory based by Epicurus upon scientific grounds.

contra, 'in opposition' to her.

68. fama deum, 'the story of the gods,' i.e. the tales told of them. fulmina: the weapon used by the supreme god to punish sinners. This paragraph is especially full of alliteration, with repetition of f. m, c, p, and u. Nor is there a finer paragraph in the poem.

69. compressit, 'could repress.'

70. inritat is a contracted form of inritauit: both syntax and metre show that the pres. is impossible here: cf. vi 587 disturbāt (=disturbauit) urbes; in v 396 superāt (=superauii) has been introduced by conjecture.

effringere cet.: Nature's laws are compared to a fortress which the great conqueror had to take by storm.

71. primus is better taken with effringere than with cupiret. The last word is an archaic form of cuperet: Lucr. has other similar forms, e.g. moriri for mori.

73. flammantia moenia mundi, 'the fiery walls of the world,' i.e. the aether which forms the limit of our world, and in which the burning stars are placed.

74. omne immensum, 'the boundless universe.' The peculiar cosmogony of Epicurus must be borne in mind, here and elsewhere in the poem. The universe (τό πᾶν, omne) is infinite and contains an infinite number of worlds (χόσμοι, mundi), which may be like or unlike our world. Between worlds there are spaces (μετακόσμω, intermundia) in which the gods live. Lucr. says that Epicurus was enabled by his genius to pass the limits of our world; in thought he passed out, through the intermundia, into the universe at large. There he first mastered the secrets which Nature hitherto had jealously hidden from man.

This conception is confusing to us, because we consider the stars as other worlds, while Epicurus believed them to be small appendages to our world.

peragrauit: the besieger of l. 70 has now become an explorer and pioneer.

mente animoque = by the power of thought. Lucr. often uses the two nouns as synonyms. Cf. Cic. De Fin. ii 102 haec non erant eius (i.e. Epicurus), qui innumerabiles mundos infinitasque regiones
mente peragraruisset, where Madvig says that Cicero had in mind either this passage of Lucr. or some Greek text which both the Latin writers followed. We know that Cicero had read Lucr. in 54 B.C., and the De Finibus was written in 45. Cf. also Wordsworth (of Newton's statue in Trinity College chapel) 'the marble index of a mind for ever | voyaging through strange seas of Thought, alone.'

75. unde, 'from there,' i.e. from the universe.

revert nobis, 'he comes back and tells us.'

quid possit oriri...terminus haerens: repeated l. 594 foll. and, with slight change, v 88 foll.: in each place the thought is the same: ignorance of natural law, which is never broken, forces men to believe in the capricious action of the gods.

oriri = esse, which is preferred in v 88: Epicurus revealed that some things are possible, others are not.

76, 77. finita...haerens is an explanation of the preceding words: A is possible, B impossible, because nature has limited the powers of each thing.

denique, 'in short.'

quanam ratione, 'on what principle,' 'by what law.'

atque = i.e.: what follows is explanatory.

terminus is a boundary stone, marking off one property from another: here it marks off the possible from the impossible for each thing.

alte haerens, 'deep-set,' i.e. immovable.

78, 79. This knowledge enables man to trample upon his oppressor, and raises him to the level of the gods.

pedibus subjecta: there is a clear reference to Lucr., and probably to these words, in Virg. Georg. ii 490 felix qui potuit rerum cognoscere causas, atque metus omnes et inexorabile fatum subiecit pedibus.

79. The asyndeton is very effective: it suggests that the positions are reversed instantaneously.

80-101. Our system has been thought irreligious and wicked; but the truth is that the worst of actions have been prompted by what men call religion. Such was the sacrifice of Iphianassa at Aulis by the hand of her own father.

80. illud...uereor, 'herein I fear one thing': illud = τοδε or ἐκεῖνο and refers to what follows.
DE RERVM NATVRA, LIBER PRIMVS

81. impia, 'atheistic,' because the Epicureans denied Providence. By a principle common in Latin verse, impia, though connected by grammar with elementa, really belongs to rationis: it is the 'system' which is atheistic, and the 'rudiments' of it are presumably less so than the advanced teaching. Lucr. takes this liberty, to avoid the cretic impiae.

elementa, 'alphabet,' 'A B C,' 'rudiments.'

82. indugredi: indu is an old form of in, seen in ind-uere (cf. ex- uere): Lucr. uses it to avoid the unmetrical ingrèdi; and all writers of dactylic verse, if determined to use the word imperdòtor, must use the form indùpetor.

quod contra, 'whereas on the contrary': cf. l. 221 quod nunc: the same fossilised quod is seen in quodzi.

illa expresses contempt or anger: istra is commoner in the former case.

83. scelerosa atque impia: the same charges, in reverse order, are retorted against religion. But Lucr. has resorted to an artifice: he now uses impius with a different meaning, as 'unnatural': the action of Agamemnon was impium, because it was contrary to the natural tie that binds father and child.

84. quo pacto, 'thus': cf. l. 912.

Triuial virginis: Artemis: cf. Catull. 34, 15: the origin of the title was unknown even in Varro's time.

85. Iphianassai: Lucr. treats this as another name for Iphigeneia. He appears to have made a mistake: for in Homer (II. ix 145) Agamemnon, during the Trojan war, says that he has three daughters living—Chrysothemis, Laodice (the Homeric name of Electra), and Iphianassa; and Sophocles (Elect. 158) speaks of Iphianassa as living after the murder of Agamemnon. Thus the Greek authorities clearly distinguish the two daughters.

86. prima uiorum, 'chief of men': the neut. plur. is unusual but is so used by Ovid Am. i 9, 37 summa ducum (the chief commander), Atrides: there are many parallels in Greek.

87. infūla: worn by her as the victim.

comptus, 'tresses,' is governed by circum in circumdata.

88. The order is: profusa est pari parte (in equal lengths) ex utraque malarum: cf. v 674 et pariter (=pari parte) mollēm malis demittere barbam. An order so ambiguous is contrary to the practice of the Augustan poets.
NOTES

89. *simul,* 'as soon as,' repeats the *simul* of l. 87.
90. *hunc* *propter,* 'near him': *propter* in this sense is commonly placed by Lucr. after the noun it governs: cf. l. 316. The priests hide the knife, to keep her in ignorance of her fate.
91. *aspectu suo,* 'at sight of her.'

*ciuis,* 'her countrymen,' the soldiers of Agamemnon: the inhabitants of Aulis in Boeotia, where the army was now detained, were not her *ciues.*
92. *genibus summissa,* 'lowered by her knees,' i.e. kneeling on her knees.

*petebat:* the impf. is the tense of dramatic description in both Greek and Latin: cf. l. 64: there is no equivalent in English.

The preposition *in* is used because *tempore* = circumstances: cf. l. 337: for *tempore* alone, cf. l. 102.
94. *princeps = prima:* i.e. she was his eldest child: this touch may come from Eurip. *I.A. 1220 πρώτη ἐκάλεσα πατέρα καὶ σὺ παῖδ' ἐμέ.* Some of the details are perhaps borrowed from the famous description of this scene in Aesch. *Agam.* 215 foll.: thus this l. is an echo of *κληθύνας πατρόφας (238), sublata uirum manibus of λαβεῖν ἄξον ταῦτα (244),* while l. 99 recalls *τέκνον δαλξώ (218).*
95. *sublata* and *deducta* are purposely used because they belong to the marriage ceremony, in which the bride was at one point lifted off the ground, and finally escorted home by the marriage company.
96. *solemni more sacrorum,* 'the customary rite of sacrifice.'
97. *claro,* 'loud.'

*comitari:* passive.

*Hymenaeo,* properly the god of marriage, is here 'the marriage song.'
98. *casta inceste,* 'a fair maid foully slain': see n. to l. 42.
99. *tempore,* 'age.'

*mactatu,* 'by the sacrificing stroke': the word is not found except in Lucr.
100. *exitus = ἔξοδος,* 'egress': she was sacrificed that the right wind might blow and the fleet 'sail forth' from Aulis: *exitus* has not here its commoner metaphorical sense of 'result.'
DE RERVM NATVRA, LIBER PRIMVS

felix faustusque: a reference to the form of speech used by the Romans when starting on public business of importance: quod bonum, faustum, felix, fortunatumque sit (Cic. De Div. i 102).

101. tantum...malorum, ‘such awful sin’: the usual sense is ‘so many evils.’

102-135. Even if you come to believe in the doctrine of Epicurus, yet your belief may be shaken by the terrible stories that are falsely told of everlasting punishment after death. This fear, the great weapon of superstition, is due to ignorance of the soul’s origin and destiny. Men do not know whether the soul is mortal or immortal; nor do they know whether it is destroyed by death, or goes down to a world below, or passes into other animals. (Our great poet Ennius held two of these theories at once: he believed in transmigration of the soul, but also in an abode of the dead below the earth. From there, he says, the ghost of Homer rose up and taught him.)

Therefore, to the two topics already promised, an explanation of the gods and heavenly bodies and the Atomic Theory, I must add a third of special importance, an explanation of the soul; and I must show that apparitions of the dead do not prove the immortality of the soul.

102. tutemet: the double suffix is rare, but occurs iv 915.

iam is difficult: perhaps it = ‘as things stand’; and so again in I. 104.

uatum, ‘of the seers’: the word includes all champions of the popular religion—poets, priests, and mythologers. uates underwent a curious change of meaning: from Ennius to Lucr. it was a contemptuous term and was ousted by the Greek word poeta; but Virgil and Horace ennobled the word: in their writings uates is superior to poeta and means ‘an inspired poet.’

103. desciscere: Lucr. is sanguine and reckons on the conversion of Memmius: many passages (e.g. II. 52, 53) show that he was not, when Lucr. was writing, an adherent of the Epicurean school.

104. quippe etenim, ‘for, to be sure.’

105. somnia, ‘fancies.’ quae, ‘enough to....’ rationes, ‘calculations.’

106. fortunas tuas turbare, ‘to cloud your happiness’: for this sense of fortunae (often = wealth), cf. v 1179 (of the gods) fortunisque ideo longe praestare putabant, | quod mortis timor hau
NOTES 55

quemquam uexaret eorum; and for the metaphor of turbare, cf. iii 37 metus ille Acheruntis, | funditus humanam qui is tam turbat ab imo.

Lucr. is reproducing a text of Epicurus (Usener Epicurea p. 30): ἐκεῖνο δὲι κατανοεῖν ὅτι τάραχος ὁ κυριῶτας ταῖς ἄνθρωπίναις ψυχαῖς γίγνεται ἐν τῷ αἰώνιῳ τι δεινὸν προσδοκῶν καὶ ὑποπτεύειν κατὰ τοῦς μῦθους.

107. certam: finis is regularly fem. in Lucr.: in ii 1116 the MSS. give extremum...finem, but edd. read extremam.

109. religionibus atque minis, ‘the superstitious threats.’

This rhythm, in which the second foot, being a dactyl, ends with the end of a word, is common in Lucr. but hardly occurs in later writers of hexameter verse.

110. nunc, ‘but as it is,’ i.e. because they see no end: this logical nunc, following an unrealised condition, is very common in Lucr., e.g. ll. 169, 244, 340.

ratio, ‘means.’

restandi = resistendi.

111. poenas ..timendumst: the constr., common in Lucr. (cf. l. 138), is rare elsewhere: of the two constructions found in Greek —φοβητέων ἐστι τιμωρίας and φοβητέαι εἰσὶ τιμωρίαι, Latin early discarded the former.

in morte. ‘after death’: lit. ‘in the state of death,’ ἐν τῷ τεθνάναι.  

112. ignoratur = homines ignorant.

113. This l. states two opposite theories of the soul’s origin: the first, that of Epicurus, teaches that the soul is born with the body; the second, that the soul existed before the body and finds its way into the body at birth.

nata = nativa and therefore = mortalis, because everything that was born must die: cf. iii 417 nunc age, natius animantibus et mortalis | esse animos animasque leues ut noscere possis.

nascentibus insinuetur: supply hominis: cf. iii 670 si immort- 

alís natura animai | constat, et in corpus nascentibus insinuatür.

The ancient champions of the soul’s immortality, chiefly the Platonists and Pythagoreans, believed that the life of the soul extends backward into the infinite past as well as forwards into the endless future; whereas the modern popular belief is that the soul was born, or created, but will never die.
et by itself is here misleading; therefore transl. ‘and they do not know.’ There follow three theories, not of the soul’s origin but of what happens to the soul at bodily death.

nobiscum = with the body.

dirempta, ‘broken up’ into its component atoms. This is the theory of Epicurus and Lucr., that the soul, being dissolved into atoms, ceases to exist.

The second theory is the popular belief that the soul goes down to Hades.

nisat = adeat.

uosque lacunas, ‘desolate caverns’: uastus here implies, not size but absence of life and joy. lacunae are ‘hollows,’ which may or may not be full of water: in Hades they are not.

The third theory is metempsychosis, or transmigration of the soul, held notably by Pythagoras.

pecudes alias, ‘lower animals’: pecudes is governed by the in of insinuet.

diuinitus = divino numine of l. 154.

117–126 is a parenthesis: perhaps the chief motive for inserting it was that Lucr. might pay a tribute to Ennius who invented the Latin hexameter and prepared the way for the nobler verse of Lucr.

ut cet. refers only to the third theory.

Ennius noster, ‘Roman Ennius’: for the same epithet, cf. Cic. Pro Arch. 22.

At the beginning of his great poem, the Annales, Ennius told how, when he was sleeping on Mount Helicon, the ghost of Homer appeared and revealed to him that the soul of Homer had passed into a peacock and next into the body of Ennius: cf. Pers. 6, 10 cor iubet hoc Enni, postquam destertuit esse | Maeonides, Quintus pauone ex Pythagoreo (after he ceased to be Homer in his dream, plain Quintus after being a Pythagorean peacock).

Helicone: the hill of the Muses, with an allusion to his dream while sleeping there.

perenni fronde coronam: the evergreen bay, representing immortal fame.

Italas belongs in sense rather to hominum than gentis: cf. l. 474.
clueret = esset. Lucr. is notably fond of alternatives for the verb esse.

120. praeterea tamen: as well as transmigration, and in spite of transmigration: both theories cannot be true of the same person, of Homer, for instance.

Acherusia templæ, 'a realm of Acheron': Acheruns, from Ἀχέρων, one of the infernal rivers, is the equivalent in early Latin for Ἀδης.

templæ is used freely in early Latin with the sense of loca: Lucr. has linguis templæ (the mouth) iv 624, mentis templæ v 103; Plautus calls the sea Neptunia templæ (Mil. Glor. 413).

122. 'Though neither our souls nor our bodies survive to get there': the subj. is due to oratio obliqua. The word permanere is regularly used of the continued existence of the soul: cf. Cic. Tusc. Disp. i 18 animum consent alii statim dissipari, alii diu permanere; Ovid A. A. ii 120 (of the mind) solus ad extremos permanet ille rogos.

123. quaedam simulacra, 'mysterious ghosts': the εἰδωλα of the Homeric poems, which are only a shadow of the living man, in body and in mind.

simulacra...miris is repeated by Virgil, Georg. i 477, but apparently in a different sense: for he means it to be impressive, whereas Lucr. is surely making fun of these ghosts: he says in effect, 'as they have no bodies, it is strange that they should be pale'; and he might have added: 'if the ghost has no soul, how could Homer's ghost instruct Ennius?'

124. unde, 'from there,' i.e. from Acheron.

semper florentis, ἀειθαλοῦς, 'immortal.'

125. speciem = simulacrum.

lacrimas: because the Homeric ghosts, when they appear in this world, weep for their own comfortless existence.

126. rerum naturam here = the transmigration of souls: the ghost of Homer did not lecture to Ennius on 'physics' in general, but explained how the soul of Homer had passed into Ennius: psychology is a part of rerum natura.

127-130 refer back to ll. 54, 55: I must, says Lucr., amend my original programme and add to it a third topic—a discussion of psychology. This is contained in Books iii and iv.
127. cum, 'not only,' answered by tum ('but also') in l. 130.
superis de rebus, περὶ τῶν μετέώρων, 'concerning celestial phenomena,'
habenda, 'must be grasped.'
128. ratio, ‘principle’; l. 129 racione, ‘manner’; l. 130 racione, ‘reasoning’: Lucr. works this word hard: such persistent repetition, with different meanings or not, seems to us excessive; but Lucr. must have liked it.
solis cet.: he now explains what superae res are: for another definition, cf. v 84 rebus in illis, quae supera caput aetheriis cernuntur in oris.
129. qua ui...terris refers to the Atomic Theory: it is true that its operation is not confined to the earth; but it is there that we can see the results produced by its working.
130. tum: tunc of MSS. is doubly wrong, for tunc is not used in enumeration, and is not used before a consonant.
cum primis: psychology is even more important than the other topics, because the chief aim of the system is to destroy the fear of death and what is supposed to follow death.
sagaci: see n. to l. 50.
131. unde=ex quo: it will be shown that the soul is formed of atoms.
anima, ψυχή, 'the soul' or vital principle.
animus, λόγος, 'the mind' or rational principle. animi natura is exactly=animus: for this form of periphrasis, very common in Lucr., see n. to l. 419.
uidendum, sc. est.
132-135 come in abruptly: it is likely that Lucr., while writing Book iv, inserted them provisionally here. The point is this: ghosts, which you might suppose to prove the survival of the soul, do not really prove it. In Book iv he explains that ghosts are material emanations from the living body which happen to survive it.
132. et: supply uidendum est.
Cf. iv 35 simulacra,... | quae, quasi membranae summo de corpore rerum | derepta, volitant ut troque citroque per auras, | atque eadem, nobis uitigantibus obuia, mentis | terrificant atque in somnis.
uitigantibus is to be taken with morbo affectionis: in sleep a man may see a ghost without fear; but if he sees one while awake, it is a
sign that he is in bad health. This would be clearer if Lucr. had written somnune: and so Bentley wished to read: but the distinction between -que and -ue is slight in early Latin.

134. audireque: the Augustan poets did not append -que to a short e, finding the sound disagreeable.

135. Cf. iv 734 quorum morte obita tellus amplectitur ossa: the different order here avoids the cacophony of coram, quorum.

136–145. I know the difficulty of writing a Latin poem on such a subject; but my friendship for you makes me willing to undergo any labour in order to enlighten your mind.

This paragraph is out of place. Terrorem in l. 146 clearly refers to terrificet in l. 133. It is not probable that Lucr., if he had completed his work, would have left this irrelevant paragraph in this place: see the preliminary note on p. 39.

136. nec me animi fallit: cf. l. 922: animi is probably locative, in my mind: it is also used with some adjectives, such as aeger and dubius.

reperta, a transl. of εὐρήματα, is often used by Lucr. of philosophical discoveries.

137. inlustrare, 'to throw light on.'

uersibus the emphasis falls here: to write such a work in prose would have been far easier: why Lucr. chose verse, he tells in ll. 935–950.

esse, though it ends the verse, has no emphasis: see n. to l. 24.

138. multa...sit agendum: for the constr., see n. to l. 111.

nouis uerbis: Lucr. has to invent his terminology.

139. egestatem linguæ: cf. l. 832 (where see n.) and iii 260 patrii sermonis estas. Munro's admirable discussion of this point (vol. ii p. 160 foll.) should be known to every student of Lucretius or of Latin. His main points are these: (1) classical Greek is the richer and more expressive tongue; (2) the Latin of Lucretius and Cicero was far superior to contemporary Greek; (3) Lucretius was able to convey the substance of any Greek original.

rerum nouitatem: Lucr. makes no pretensions to originality as a philosopher: his sole object is to reproduce the system of Epicurus: but one of his difficulties is, that philosophical questions (res) are unfamiliar (nouae) to Romans. It must be remembered that all the philosophic works of Cicero are of later date than this poem.
140. uirtus, ‘worth’: perhaps imagined by Lucr.: see n. to l. 26. sperata (= quam spero) is nearly the same as ‘future.’
141. suauis may be either gen. or nom. amicitiae: prob. governed by voluptas; some make it gen. after laborem.

Epicurus attached great importance to friendship as productive of pleasure.

sufferre: MSS. have efferre: but, as Lucr. twice elsewhere has sufferre laborem (iii 999, v 1272), it seems likely that the s of quemuis caused the first letter of the verb to drop out.


uigilare, ‘to watch,’ i.e. to give the time for sleep to study: lucubrare is to cut off sleep at the other end for the same purpose. Even in his sleep, the dreams of Lucr. turned on the master passion: cf. iv 962 foll. (most men dream of the subject which absorbs their waking thoughts, lawyers of the courts, sailors of the sea) nos (I) agere hoc autem et naturam quaerere rerum | semper et inuentam patriis exponere chartis.

serenas adds poetry to the picture: the word means ‘cloudless,’ not ‘windless.’

143. ‘Seeking for language and for verse, by which I may in the end be able...’: demum shows that the task is long and hard, and also emphasises again the old point, that the metrical difficulty is the most formidable.

145. penitus can mean either ‘deeply’ or ‘thoroughly,’ and so might qualify either occultas or conuisere. For the former, cf. Ad Herenn. iv 9 fontis maximos penitus absconditos; Cic. D.N.D. i 49 res occultas et penitus abditas. For penitus conuisere, cf. Cic. De Or. ii 99, Brutus 306.

But it is certain that Lucr. used res occultae without an adverb to denote the invisible atomic world: cf. l. 424. It is therefore better to take penitus with conuisere.

146–158. The remedy for this fear is the study of philosophy. The first axiom of our system is this: Nothing is produced from nothing. It is from ignorance that men attribute to supernatural causes whatever they cannot understand in nature. Grasping this principle, we can dispense with supernatural agencies.
146-148 are repeated in three other Books, near the beginning of each (ii 59, iii 91, vi 39). Any of these passages will show that Lucr. did not write the lines for Book i, but inserted them here as an after-thought. For elsewhere he begins by comparing mankind to children frightened by the dark, so that the mention of the sun, relevant there, is not really relevant here.

This is important, as a clear case of a practice which is probably common throughout the poem: see Index under ‘insertions.’

146. terrorem refers back to terrisse, l. 133.

tenebras, as much as terrorem, belongs to animi.

147. lucida tela dei, ‘the shining arrows of the light,’ a noble synonym for radii solis.


149. cuius refers to ratio: it scans here as a pyrrhic (−−): so cui is sometimes a pyrrhic in verse.

hinc, ‘from what follows,’ i.e. from the following principle.

150. nullam rem e nilo gigni: so Epicurus begins his outline of the system addressed to Herodotus: οὐδέν γινεται ἐκ τοῦ μη δύνατος, every thing is produced from some previously existing matter. This rules out the arbitrary creation of things out of nothing by the gods.

In a more general and abstract form, this principle implies that the qualities and limits of an effect are invariably determined by its cause. See n. to l. 160.

diuinitus, ‘by divine power’: cf. ll. 154, 158. From the scientific point of view this word is unnecessary and irrelevant. But the main object of Lucr. is not scientific: he values science only as a means of disproving current theology. See n. to l. 54, and ll. 931 foll.

151. quippe, ‘for.’

ita, ‘in the way we see.’

continet, ‘paralyses.’

152. multa, sc. opera, to be taken from operum below: for the constr., cf. l. 16.

153. causas: cf. vi 54 ignorantia causarum conferre deorum cogit ad imperium res et concedere regnum. The quotation shows that uidere = intellegerere.

154. ac...rentur, ‘and which they suppose...’: the second of two relatives is often omitted in Latin: see n. to l. 721.
quod sequimur, 'the object of our search': Epicurus uses τὸ ἔντομον in this sense.

inde, 'thereafter.'

perspiciemus, 'we shall ascertain.'
et...et, 'both...and': what follows explains quod sequimur.

unde, 'out of what': we shall learn that all res are made up out of atoms.

opera, 'the hand,' 'the working.' Not only the origin of visible things will become clear to us, but the cause of phenomena in general.

For the ending of the hexameter, cf. l. 184: in the Augustan poets, a verse ending with two dissyllables has a monosyllable before the first.

For consider all living things, animal and vegetable, and mark their phenomena in regard to (1) birth or parentage; (2) season; (3) growth; (4) nutrition; (5) size: in every case you will find that the facts are against arbitrary creation and in favour of the Atomic Theory. (And the same is true with regard to (6) cultivation.)

Lucr. does not attempt here to give formal proofs of the truth of the theory: he is content to urge that the theory is the only way of explaining a multitude of facts which we all know.

nam: the usual word to introduce the first of a series of arguments: cf. l. 217.

omnibu': Cicero, writing at the beginning of 45 B.C., says that it had been considered a refinement in his earlier days but was now a provincialism, to drop the final s in pronouncing such words as omnibus and dignus, when a consonant followed (Orator 161). In this and other respects Lucr. deliberately adopted a somewhat archaic style for his poem. See Introd. p. xvii.

semine egeret: from Epicurus (Usener Epicurea p. 5) οὐδὲν γίνεται ἐκ τοῦ μή δύντος· πάν γὰρ ἐκ παντὸς ἐγένετ' ἂν, σπερμάτων γε οὐδέν προσδεψμένον.

First, the source from which animals are produced does not vary. Legend may say that Aphrodite sprang from the sea foam; but facts show that living beings are not so produced, any more than fish can grow, like trees, out of the ground.
primum here is not followed by deinde.

162. squamigerum may be either neut. sing., or the archaic form of the gen. plur.

erumpere caelo: whereas they really burst out of eggs.

163. aliae pecudes, 'flocks as well,' alius being used like ἄλλος.

164. Two statements are compressed here: (1) animals would not be true to type: a cow might produce tiger cubs; (2) animals would not have a fixed place of abode: you might find a tiger in your garden. The first statement is more directly relevant to the argument.

165. constare, 'to remain constant.'

166. mutarentur: idem is not carried on to this verb.

ferre omnes omnia possent, 'any tree could bear any fruit': Virgil repeats the phrase Georg. ii 109.

167-168. 'For, since there would not be material particles to produce each kind, how could things have a fixed source of existence?: i.e. the fixity of type cannot be explained by a theory of arbitrary creation.

genitalia corpora cuique: for this phrase, cf. l. 58: but here the verb (essent) accounts for the dat.

Note that cuique here and often in the context does not mean each thing but each kind of thing.

168. mater: for the metaphor, cf. ii 707 omnia quando, | seminibus certis certa genetrice creati, | conservare genus crescentia posse uidemus.

169. at nunc, 'but in reality': see n. to l. 110.

170. inde = ex eo loco. The subj. is quidque, to be taken out of cuiusque below: cf. l. 16.

171. materies is identical with corpora prima, and both mean 'atoms,' as Lucr. warned us above.

173. inest secreta facultas, 'there resides a distinct capacity': i.e. each kind of thing has its own reproductive system. The word 'secret' should be avoided: there are no mysteries in the Epicurean system.

174. praeterea: 'secondly': Lucr. uses this word generally to introduce the second of a series of arguments.

175. uusas, 'clusters,' seems a necessary correction of uites, the
mss. reading: for (1) the vine-plant puts forth in spring, not in autumn; (2) it is easy to account for siles as a gloss of unus.

fundī cannot be explained as = fetus fundere (l. 351).

176. suo tempore, ‘at the proper time.’
178. tempestates, spati, ‘the seasons.’
adsunt = fauent.
uluida, ‘quickened’ by the favourable weather.

teneras, ‘young.’

180. flerent: the subject to be supplied is ‘plants.’
subito, ‘unexpectedly.’
exorentur: the ordinary form, exorirentur, is forbidden by the metre.

181. spatio, ‘time’: again l. 184.
182. quippe ubi, ‘since in that case.’ forent: conditional subj.
genitālī concilio, ‘from meeting to make’ a plant: concilium, συγκρόσις, is the technical expression for the union of atoms to make a res, and discidium for the breaking up of such a union.

183. tempore iniquo, ‘by the unfavourable season’: the abl. is not temporal.

184. porro, ‘thirdly.’ usus = opus.
185. seminis ad coitum, ‘for the coming together of (supplementary) atoms.’ Growth of animals or plants is due to the accretion of appropriate atoms.

Lucr. used semen above (l. 160) for the atoms out of which things are originally made: here he uses it for the atoms by which they grow: in his view nasce and crescere were both parts of a single process.

186. ‘For little children would grow to full size in a moment’: such things may happen in Wonderland but not in real life.

Note that the sense of subito differs from that in l. 180.

187. arbusta are not ‘bushes,’ for that would weaken the argument, but ‘forest trees’; the proper word, arbores, is rejected by the metre: see n. to l. 352. The verb, salirent, by itself suggests height.
188. quando, ‘since.’

189. tempore: Munro printed this for semine of mss., and inserted the l. which follows: similar endings account for the loss of a line. Lucr. is repeating the two points already stated, i.e. that all things grow from a fixed seed at a fixed season.
Editors who deny a lacuna here have to account for the solecism of *crescentes* agreeing with *omnia*: no similar instance, without metrical necessity, can be produced from the poem.

191. *sua de materia*, 'out of the atoms suited to it.'

192. *huc accedit, uti*, lit. 'to this is added, that...,' i.e. 'besides,' 'fourthly.'

certis *imbribus anni*, 'fixed seasons for rain.'


194. *secreta cibo = priuata cibo* of l. 1038.

*natura animantum* is exactly the same as *animalia*: see n. to l. 419.

196-198. The argument, too briefly stated by Lucr., is this: plants find their food in rain, and animals find their food in plants; hence we see that there are atoms common to rain and plants, and also atoms common to plants and animals, though the three products are quite distinct. An illustration is afforded by the letters of the alphabet: two words may denote very different things and yet have many letters in common. Lucr. loves this illustration: he felt that letters are to words very much what atoms are to *res*: see ll. 823-827, ii 688-694.

It seems that these three lines were hastily inserted here, when Lucr. was writing ll. 803-816: they are hardly intelligible, without the explanation given in the later passage. See n. at l. 146.


rebus, 'to created things.'

198. *principis*: abl. of *primordia*: see n. to l. 55.

199-204. The giants we read of in the old poets never existed; and that is because the atoms which make a man cannot combine to form a *res* above a certain size; the atoms which make an elephant or a giraffe are different, or combine differently, and can form something much bigger.

199. *denique* = fifthly.

200. *pedibus*, 'on foot.'

*per uada...transire*, 'to ford.'


202. *uiuendo uincere*, 'to outlive.'

*saecla*: see n. to l. 20.
The amount of alliteration in this passage is remarkable, even for Lucr.

203. reddita, 'assigned.'
204. e qua...oriri, 'and what can arise out of those atoms is fixed.'
205-207. Lucr. here sums up, as if he had stated all his proofs. But next (ll. 208-214) he adds a sixth proof, of a less general kind, from agriculture. On comparison with v 210 foll., it seems highly probable that Lucr., while writing Book v, hastily inserted these seven lines in Book i, without necessary changes, and without even noticing that they ought to come after l. 204. See n. at l. 146.

207. proferrier: this archaic form of the pass. inf., common in Lucr., is used by him only when -ier is preceded by a long syllable; but loquier (=loqui) is found in earlier Latin.

208. postremo = sixthly.
209. manibus: either abl. of instrument, or dat. after reddere: Munro declares for the former.

210. uidelicet has the constr. of uidere licet.

211, 212 are taken from v 210 si non secundas uertentes uomere glehas | terraique solum subigentes cimus ad ortus, | sponte sua nequeant liquidas existere in auras. In the hurry of transcription, Lucr. has made a little slip: it is not primordia (as is here stated) but fruges which the ploughman brings to birth from the soil.

213. nulla, sc. primordia.
quaeque, 'each kind of crop.'

214. meliora: they might also be much worse, if they did not grow from a certum semen: but that result might be attributed merely to want of cultivation.

215-264. The second axiom of our system is this: Nothing is utterly destroyed: what appears to be destroyed is only resolved into the atoms that formed it. This axiom is proved by (1) the gradual disappearance of created things; (2) the actual existence of visible matter in this world; (3) the different force required to destroy different things; (4) the growth and youth and beauty of the world.

Lucr. divides the law of Epicurus into two statements: (1) apparent destruction is merely disruption into atoms; (2) the atoms are indestructible. Of the four arguments which follow, the first and third deal with the former statement, the second and fourth with the latter.

As no fresh matter is created out of nothing, and no existing
matter is destroyed, it follows that the sum of matter in the universe is constant.

215. **huc accedit, uti=next**: cf. l. 192.
corpora, i.e. *prima corpora*, 'atoms.'

217. **nam** introduces the first of four proofs: see n. to l. 159.
e cunctis partibus, 'entirely': so *magna ex parte* etc.

218. **repente**, 'in a moment,' is the emphatic word here, where Lucr. is arguing from the longer or shorter space of time during which visible things last.

219. **usus=opus**: cf. l. 184.

220. discidium, διάσρεω, 'disruption': see n. to l. 183.
nexus, 'the fastenings' which unite one atom to another.

221. **quod nunc**, 'whereas in fact': for *quod*, see n. to l. 82, and, for *nunc*, n. to l. 110.
aeterno semine, 'of atoms that are indestructible.'

222. **uis obit**, 'a force has encountered them': cf. l. 247.
**quae** = sufficient to....

223. **intus...per inania**, 'through the void spaces inside' the res in question: Latin requires *intro* to be used with verbs of motion such as *penetrare*; *intus* goes with *quae sunt* understood.

224. nullius: a noun here and l. 960.
**uideri**, 'to be seen': this passive sense, rare in Cicero, is common in Lucr.

225. praeterea = secondly.
This second proof is taken from an extant text of Epicurus (Usener l.l. p. 5) ει το έφειρεν το ἀφανιζόμενον εις το μη δο, πάντα δυν ἀπωλέοι τα πράγματα, ουκ οντων εις α διελύτο (if that which is removed from our sight were utterly destroyed, then all things would have ceased to be, because there would be no bodies into which they could be broken up).

227. unde, 'from what matter...?' Some source there must be, as we know already that res cannot be produced from nothing.

**generatim**, 'each according to its kind.'

228. reductit: *reducere* is never found in Lucr.
daedala: see n. to l. 7.

230. ingenui fontes, 'its native springs,' which the ancients believed to be one source of the sea water. But where, asks Lucr., do those springs get the water from?
externa, 'outside the sea': take longe with the verb.

231. suppeditant, 'keep full': this verb governs mare: in its general use, suppeditare takes an acc. of the thing supplied.

pascit: the stars feed on fire which they draw from the aether and Lucr. again asks where the aether gets fire from.

232. debet, 'is bound.'

233. The Epicurean doctrine that time is infinite is of importance in this and many other arguments of Lucr.

consumpse for consumpsisse: so confluxet for confluxisset (l. 991).

234–236. The argument is this: if the materials out of which our world is made, have not been destroyed in the destruction of previous worlds, then they can never be destroyed and are aeterna.

234. spatio, 'space of time': cf. l. 184.

atque is like our i.e.

fuere, 'there existed elements': a noun is needed in English.

235. haec rerum summa, 'our world,' lit. 'the aggregate of matter which we see': rerum summa is 'the universe.'

refecta, 'made anew': all res, in our world and in all worlds, are being constantly reduced to their atoms.

236. certe, 'assuredly.'

238. denique =thirdly: see n. to l. 17. Here and often denique introduces the penultimate argument and is followed by postremo. The distinction between the first proof and the third is this: the former shows that force is required, the second that a varying force is required for the disruption of a res.

239. nisi...teneret, 'if they were not held together by indestructible atoms': that materies = atoms is shown by inter se, which cannot be said of a single thing.

240. indupedita: fem. sing., agreeing with materies: see n. to indugredi l. 82.

241. tactus = mere contact.

satis: an adverb.

profecto, 'assuredly': a favourite word with Lucr.

242, 243. 'Since then there would be no things of substance indestructible, things to break up whose texture a proportionate force would be required.'

For quippe ubi, cf. l. 182.

243. uis quaeque = uis pro textura cuiusque reperta (l. 247) 'a
force which proves sufficient to master the texture of each thing.'

(W. R. Hardie in *Classical Quarterly* v 104.)

244. at nunc: see n. to l. 110.

principiorum: see n. to l. 55.

245. constant=sunt: see n. to l. 119.

materies, ‘the atoms’ themselves.

246. acris, ‘strong.’

247. nis obeat: cf. l. 222.

pro=to overcome. reperta, ‘which proves.’

249. discidio, ‘by means of disruption.’

corpora material: a new name for the same atoms.

250-261. The fourth argument is directed to the same point as the second: we see, in the case of rain which is converted into the fruits of the earth, an instance of a res which perishes, but whose atoms survive. But the philosopher has had his innings, and the poet now comes forward. What follows is not philosophy but mythology taken from the Greek dramatists: it describes the ‘mystic marriage’ (τερός γάμος) between the sky and the earth, to which all life and joy is due; and this gives occasion for a picture of spring, as beautiful in its simplicity as any poet ever drew. Cf. ii 991
denique caelesti sumus omnes semine oriundi; | omnibus ille idem pater est, unde alma liguentis | umoris guttas mater cum terra recept, | feta parit nitidas fruges arbusuque laeta | et genus humanum.

250. postremo=fourthly.

252. nitidae fruges, ‘goodly crops’: a common phrase in Lucr.

253. ipsae is used to avoid árbôres which is unmetrical. To translate ipsae ‘of themselves’ would be a scientific error, as Epicurus taught that all growth is due to accretion of atoms (l. 185).

254. hinc...porro, ‘by them in turn’: this series recurs constantly in this book: rain feeds plants, and plants feed animals. It is possible that Lucr. was, like Epicurus, a vegetarian; he always speaks of fruges as the natural food of man.

255. pueris florere, ‘blossom with children’: the verb suggests that children are like flowers: perhaps he is thinking of κοινοτρόφοι as an epithet of πόλεις.

256. nouis, ‘young.’

257. fessae...pingui, ‘laden with fatness’: pingue is treated as a noun.
258. *candens lacteus*: Lucr. does not dislike a double adjective without *et*, which is avoided by the Augustan poets: but one of the adjectives is generally equivalent to a genitive of material: so here *lacteus* = *lactis*. See n. to l. 946.

259. *noua proles* are the young animals and especially the lambs, as is shown by the delightful description that follows.

260. *infirmis*, ‘staggering.’

*lasciua ludit*, ‘frisks and gambols.’

261. *lacte mero*, lit. ‘pure milk’; but Lucr. is thinking of the other meaning of *merum*: the milk intoxicates these young creatures like wine.

*nouellas* we must translate by ‘young’; but so we lose the tenderness of the diminutive. Lucr. shows a marked sympathy for animals and interest in their life.

262. *uidentur*, sc. *perire*.

263. *quando*, ‘since.’

*alid ex alio*, ‘one thing out of another’: *alid*, an older form, is here more convenient metrically than *aliud*: cf. ll. 407, 1115.


The simplicity of these two lines should not blind the reader to their deep and tragical truth.

265–328. *That the atoms are invisible is no proof that they are not material*. For there are in nature many invisible forces which work material effects. Consider (1) the wind, which produces in a tempest similar effects to a flood of waters; (2) the phenomena of smell, heat, and cold; (3) the phenomena of evaporation; (4) the invisible detrition of metal and stone; (5) the growth and decay of living things. We conclude that Nature works by means of material particles, so small as to be invisible.

Lucr. is now preparing the way for his account of atoms and deals at length with a preliminary objection: is it possible that an invisible thing should be formed of matter? Epicurus taught that all knowledge is originally derived from the senses, so that it is specially difficult for him to deal with this objection. He himself described the atoms as *σῶματα λυγφ θεωρητά* (Usener *Epic.* p. 191).
265. nunc age, 'now mark me': a call for attention, which is repeated from time to time on a change of topic: cf. ll. 921, 953.
266. genitas, 'when once made.'
267. nequa, 'lest in any way.'
269, 270. 'I shall tell you of other material things as well as atoms (praeterea) which you yourself must admit to exist, though they are invisible.'

tutē: even though you do not accept our system.
in rebus = in rerum numero: cf. ll. 446, 691.
uideri: see n. to l. 224.
271. principio, 'in the first place': this begins the first of five arguments.

incita, 'when aroused.'
pontum seems to be required by the sense: the eye, looking on a stormy sea, would be arrested first by the expanse of angry water before noticing the ships in distress and the driving clouds. portus (Munro), cautes (Lachmann), and corpus (some editors) are all unsatisfactory.

272. rult, 'overwhelms': cf. l. 289.
274. montis supremos, 'the mountain tops.'
275. siluifragis: see n. to l. 3.
276. uentus is required by the sense: the MSS. have pontus.
277. uenti: nom. plur.
nimirum, 'assuredly': very often used, but never ironically, by Lucr.: in Plautus too mirum ui is never ironical, but mirum quin always is.
corpora caeca = material though invisible things.
280. alia, 'other,' followed by et for atque, meaning 'than.'
stragem refers esp. to fallen trees: cf. l. 274 sternit.
281. mollis aquae natura, 'flowing water': in Lucr. aquae natura = aqua. Munro takes mollis as nom., others as gen.
284. coniciens, 'piling on each other.'
arbusta tota: Lucr., if he could, would have written arbores magnas: cf. l. 274, and see n. to l. 187.
285. uementis aqua, 'of the attacking water': a common sense of uentire in all periods.
286. ita, 'in such wise': adeo is constantly used thus by Livy and later writers, at the beginning of a clause.
turbidus, 'darkened.'
287. molibus, 'the piles' of the bridges.
288. dat, 'it causes': Lucr. often uses dare with the sense of facere, e.g. dare motus = moveri.
289. grandia saxa, 'the huge stones' of the bridges.
ruit...obstat, lit. 'where anything blocks its waves, it overthrows it': quicquid has the sense of quidque, as often in Lucr. for the constr., cf. l. 15.
291. procubuere, 'have borne down': when cum means 'whenever,' and refers to present time, it is followed in classical Latin by the perf. ind.: see n. to l. 319.
293. uertice torto, 'in whirling eddy.'
295. etiam atque etiam = 'I insist': again l. 1049.
296. factis et moribus, 'in their works and ways.'
297. aperto, 'visible') (caecus, 'invisible.'
The poetical amplitude of these descriptions of storms and flood must be attributed to Lucr. alone, and not to his Greek originals. Epicurus was a man of science who despised literature.
298. tum porro = secondly.
300. aestus, 'heats.'
tuimur: in Lucr. tui is always 'to see,' tueri either 'to see' or 'to protect.'
301. usurpare, 'to observe': lit. 'to handle' with the eyes.
uoces, 'articulate sounds.'
303. sensus impellere: again iv 527. Lucr. here suffers from the 'poverty of his native tongue.' Sounds etc. strike, not upon the senses themselves but on the organs of sensation: Epicurus can say καπαν το αισθηθρομον, but the word sensorium was not invented before the time of the schoolmen.
Lucr. deals at length with the phenomena of sensation iv 522–705.
305. denique = thirdly.
fluctifrago, κυματογιανει, 'where the waves break': see n. to l. 3.
306. eadem is scanned as a spondee.
307. persederit, 'permeated them.'
308. usumst: passive: see n. to l. 224.
fugerit aestu, 'it was dispelled by heat,' fugio being treated as a passive of pello.
309. partis, 'particles.'
311. *quin etiam* = fourthly.

*solis annis*, ‘revolutions of the sun’: *annus* is ‘a circuit,’ and *anulus* ‘a little circuit.’

312. *subter*, ‘on the inner side,’ where it touches the skin.

*habendo*, διὰ τὸ φορεῖν, ‘by wearing’: the subject of the gerund is not the ring but the wearer: a gerund so used is not passive: there is merely a change of subject; and the object (*eum*) is omitted.

313. *stilicidi*, but *stilla*: *uilia*, but *millia*: the rule is that, where *-ll-* follows *i*, one *l* is dropped, if *l* follows.


*i*am goes with *detrita*: when the process is complete, we see it; but we cannot see it while it is going on (*dum detertitur*).

316. *portas propter*, ‘near the gates of towns’: for the position of *propter*, see n. to l. 90.

318. ‘By the repeated touch of those who greet them as they pass by’: cf. Cic. *Verr.* iv 94 (of a bronze statue of Hercules at Agrigentum) *rectum eius ac mentum paulum sit attritius, quod in precibus et gratulationibus non solum id uenerari uerum etiam osculari solent*. A familiar modern example is the toe of St Peter’s statue at Rome.

319. *cum sunt detrita*, ‘when they are worn down’: cf. l. 315. I have altered *sint* of mss. into *sunt*: for (1) the indicative is here required by Latin idiom: see n. to l. 291; and (2) copyists preferred the subjunctive after *cum* and often changed *u* to *i* (*sunt* to *sint, uicerunt to uicerint*) for that reason: see Madvig’s note on Cic. *De Fin.* v 41. If *sint* be kept, *cum* is causal, ‘since they have been worn away’; but l. 315 seems decisive against this interpretation.

320. *corpora*, ‘particles.’

321. *speciem*, ‘the power of seeing,’ = τὸ ὁρᾶν.

*natura uidendi*, ‘the nature of vision,’ i.e. the limitation of our eyesight: our eyes, in fact, are not ‘patent double million magnifying gas microscopes of hextra power,’ or they might perceive those particles.

322. *postremo* = fifthly.

Lucr. now turns from inorganic substances to organic, so that l. 326 is out of place and ought to have been included in the previous argument. Here again the author never put the last hand to his work.
de Rerum Natvra, Liber Primvs

dies, 'time.'

324. oculorum acies contenta, 'exertion of the eyesight.'

326. mare: the acc. after impendere is archaic and rare; Lucr. has acc. after accidere v 608.

uesco, 'small,' 'fine': Bentley (Hor. Sat. i 2, 129) quotes this l. and explains the word as tenui et minutissimis partibus constante. See Conington's n. to Virg. Georg. iii 175.

327. quoque in tempore, 'at each moment': cf. l. 320.

possis, 'can one see': Memmius is not addressed here: this use of the 2nd pers. of the pres. subjunctive is constant in Latin.

328. gerit res, 'works,' 'does her business.'

The emphatic word here is caecis: Epicurus and Lucr. held that every change in nature was caused by the movement and combination of invisible particles of matter, called 'atoms.'

329–369. But atoms are not the only factor of the universe: there is a second factor, which we call 'void.' The existence of void may be proved in three ways: (1) by the possibility of motion; (2) by the penetrability of solid bodies; (3) by the unlike weight of two bodies of like size. We must therefore believe that void exists.

A special difficulty about 'void' must be noticed here. Inane (κενβυ) is used by Lucr., following Epicurus, to denote two different things: (1) empty space; (2) space, in which bodies rest, properly called locus (τόπος), or through which bodies move, properly called spatium (χώρα). In fact, both locus and spatium are sometimes inclusive, and sometimes exclusive, of the bodies contained in them: for the former, cf. l. 523 and see n. to l. 969.

329. corporea...natura = corpore: see n. to l. 419.

stipata, 'jammed together': a transl. of the technical term συμπιλούμενα.

330. est in rebus, 'is in the number of things,' 'actually exists': cf. ll. 270, 488. The words might mean 'exists inside things,' and have generally been so taken; but the present purpose of Lucr. is to prove the existence of void generally; and the existence of void in things is not proved by the possibility of motion. See n. to l. 369.

This l. is echoed in Persius i 1 o curas hominum! quantum est in rebus inane!

331. quod, 'this fact,' i.e. the existence of void.

332. quaerere, 'to be at a loss.'
333. *de summâ rerum*: an ambiguous phrase: it means, either 'concerning the universe,' i.e. the composition of the universe (see n. to l. 235); or 'concerning the gist of the matter,' i.e. the most important points of the system. I prefer the latter explanation.

334 was not written by Lucr. For he was incapable of saying, 'For these reasons void exists,' before giving even the first of his proofs. A further objection has been raised to *locus intactus*, which does not occur elsewhere and is not an exact equivalent of *ἀναφέρει φῶς*, used by Epicurus as a synonym for *κενόν*. But the first objection is quite sufficient to condemn the verse.

It is also possible to explain its existence. In our best ms., O, there are occasional headings, each occupying a line, to explain what is coming. Thus after l. 334 O has DE INANI; and it is likely that a verse was fabricated from the rest of this heading, which may have run thus: *quapropter locus sit, intactum, inane vacansque.* Many of the extant headings begin with *quare*. After l. 704 O has the following l.

*neque ignem neque aera neque umorem principia esse*

which is really a heading but was taken by the copyist for a line of the text; for it is not written, like other headings, in capitals, but in the same letters as the text.

335. *esse*, sc. *inane*.

336. *officium*— *officere*, 'that which is the way of body, i.e. to get in the way...': in early Latin *officium* does not mean 'duty' (*καθήκον*), but 'activity,' 'habitual practice,' whether good or bad.

*exstat = est*: see n. to l. 119.

337. *officere*: a pun on *officium*: see n. to l. 65.

*in omni tempore*, 'under all conditions': see n. to l. 93.

*adesset*, 'would apply to.'

339. 'Since no <other> thing would be the first to give way.'

Body unmixed with void is found only in the atom; and the atom is absolutely unyielding and offers complete resistance. Consequently, as motion is a fact proved by the senses, there must be some element in the universe which offers no resistance: this element is *inane*.

340. *at nunc*: see n. to l. 110.

*sublima caeli*, 'high heaven': for the form of the adj., cf. ii 845 *sterila*; ii 1122 *hilaro*. 
342. **ante oculos**, 'plainly': cf. l. 62.

In all these arguments, Lucr. follows strictly the method of Epicurus: in each an appeal to the senses (e.g. *oculi*) is followed by reasoning (*ratio*) based on that appeal: cf. l. 425.

343. **solicito**, 'restless.'

**priuata** adds nothing to the meaning of *carerent*.

344. A new point is now made: if there were no void, not only would motion be impossible, but the atoms could never have combined to form created things (*res*) at all.

345. **materie** = *primordia*.

346. **praeterea** = secondly. Lucr. next proves the existence of void in created things.

**quamuis solidae**, 'however free from void': the opposite of *solidus* in this sense is *rarus*. Every *res* (created thing) without exception is *rara*.

347. **hinc**, 'from what follows.'

349. **liquidus** and **liquidus** are found in the same l. of Lucr., iv 1259 *liquidis et liquida crassis*: other poets shorten the first *i.*

**omnia**, 'all the place': common both in prose and poetry.

This vivid description is very characteristic and certainly cannot be derived from Epicurus.

350. **omne**, 'every part of.' Yet the body of an animal appears to be a solid thing.

352. **cibus**: trees feed on rain which they draw in by their roots and convert into sap.

**totas**: Lucr. wrote *arbusta* above, because the metre obliged him (see n. to l. 187); but he meant *arbores*, which suits his argument much better: and, to let the reader know this, he now writes *totas*, as if *arbores* had preceded. This is not a solecism but a deliberate artifice. No similar instance occurs in the poem.

354. **saepta**, 'walls': cf. iv 699 *saxea saepta*.

**clausa domorum**, 'shut houses,' i.e. the doors of houses.

355. **rigidum**, 'stiffening'; or perhaps 'chill.'

356. **quod**, 'a thing which...'

**nisi sint**, ...*ulderes*: an irregular condition often used in verse for metrical reasons: the irregularity appears to be confined to the protasis: cf. Tib. i 4, 63 *carmina ni sint, | ex umero Pelopis non nituisset ebur.*
corpora: to Lucr. sound and cold are corpora.
quaeque, 'in each case.'
358. denique = thirdly.
359. nilo: abl. of amount of difference.
figura: abl. of description: figura and filum are both used by
Lucr. to represent ὑγος, 'size': magnitudo is excluded by the metre.
361. corporis, governed by tantundem, is delayed to the relative
clause: see n. to l. 16.
plumbo, 'a lump of lead' of equal size.
pendere: supply as subject lanae glomus.
362. deorsum scans as a spondee.
363. natura inanis = inane: see n. to l. 419.
manet, 'always is.'
364. quod: transl. 'when a thing....'
uidetur, 'is shown to be.'
365. declarat, 'it makes plain.'
366. grauius, 'the heavier thing,' i.e. the lead.
367. dedicat, 'tells us': cf. l. 422.
368. est, 'exists.'
ratione: see n. to l. 342.
369. admixtum rebus, 'interspersed throughout creation': cf.
ll. 382, 655, and also l. 660. Here, as in l. 330, Lucr. is speaking
of void generally; when he refers to void inside things, he makes
this clear by inserting in, e.g. ll. 511, 569.
370–397. Some deny the existence of void and explain motion as
due to a different cause: they say that motion is a mere exchange of
place between two objects. But neither of two objects, e.g. a fish and
water, could begin to move, if there were no void. Again, if two flat
bodies part suddenly after contact, the space left between them is filled
with air by a gradual process and not instantly. Nor can their
moving apart be explained by contraction of the air outside them.
And indeed such contraction of air cannot take place without the
existence of void.
370. illud in his rebus: cf. l. 80: illud is governed by praecurrere, 'to anticipate.'
371. fingunt, 'falsely teach.'
372. squamigeris = piscibus: so Lucr. uses lanigerae for oves and
penipotentes for aues.
laticeae = aquam.

nitetibus: Lucr. uses nisi of all forms of motion, walking and flying as well as swimming.

373. liquidus usias, 'a watery way': a reminiscence of the Homeric ὑγρὰ κελευθα.

post: adverb.

374. linquant: subjunctive of oratio obliqua.

The opponents of void say that, when a fish swims, the water makes way in front and flows to the space in its wake. No, says Lucr.: neither fish nor water could move till the other had moved to make room for it.

According to Lucr., the fish are able to move because there are void spaces (inania) in the water.

375. inter se—locum, 'can move by exchanging places': inter se, in spite of its position, refers wholly to mutare.

376. quamuis—plena, 'although all things are full,' i.e. although there is no void in the universe.

377. scilicet, 'you must know.'

totum acts as an adv. qualifying falsa, 'wholly false.'

378. quo, 'in what direction?'

tandem, = 'I ask,' adds liveliness to the question.

381. priuandumst corpora: see n. to l. 111.

382. admixtum rebus: see n. to l. 369.

383. initum, 'beginning': used here and elsewhere by Lucr. to represent ἀρχή, because his metre rejects the proper word initium: not to be confused with initium of l. 13.

mouendi = τοῦ κινείσθαι.

384. postremo introduces the second section of the paragraph: perhaps it is used here because this section ends the whole discussion about void.

de concursu, 'immediately after contact.'

lata seems to have the sense of plana, 'smooth': the two surfaces must meet at every point, if no air is to be left between them.

Giussani suggests, with great probability, that these bodies are a pair of cymbals which clash and part. Lucr. takes his illustrations from real life, not from a text-book on mechanics.

385. cita = quickly.

nempe, 'it is true.'
Lucr. here makes a concession to his antagonist: the space thus created will be filled by air; but, he goes on, the process must take time, and, until it is complete, there is void between the bodies.

The explanation of motion here refuted was stated above, ll. 372–376.

387. porro, 'now.'

circum celerantibus, 'swift-circling.'

388. uno tempore, 'in one moment.'

389. primum quemque, τὸν ἄει πρῶτον, 'first one spot and then another.'

392. 'Supposes that this <moving apart> takes place then, because the air contracts' and so makes room for them.

Note that this is a second false explanation of motion.

id fieri = corpora dissilire.

aer is the air outside the two bodies.

393, 394. 'He is mistaken; for at that moment a void is formed <between the bodies> which did not exist before; and a space which was void before <in the air outside the bodies> is filled up.'

tum, i.e. at the moment of separation.

395. tali ratione, 'in the manner described': cf. l. 1081.

denserier: for the form, see n. to l. 207.

396. si iam and ut iam are used with the pres. subj. to state a hypothesis provisionally, for the sake of argument: see Madvig on Cic. De Fin. iv 66. Cf. l. 968.

397. trahere, 'to withdraw,' intrans.

398-417. There are many other proofs of the existence of Void; but these are enough, if you prove an earnest disciple. If you show slackness, I have an endless store of arguments which our whole lives would not exhaust.

398. quapropter, impossible in l. 334, is in place here, after the proofs have been given.

causando, 'by raising objections.'

multa goes with moreris: cf. v 91 ne te in promissis plura moremur.

399. in rebus: see n. to l. 330.

400. praeterea = alid.

401. fidem conradere, 'to scrape together evidence'; the verb seems contemptuous.
uestigia, ‘footprints,’ i.e. outlines, hints: this word suggested the simile which follows.
sagaci: see n. to l. 50.
sunt: for the emphatic position, see n. to l. 24.
tutè, not tutè.
ferai, not ferarum of recent edd., is required: Lucr. has montianagum genus ferarum (ii 597, 1081); and the epithet is quite unsuitable to a pack of hounds which are kept in order by the huntsman till they find, and then run straight upon the scent.
naribus, ‘by scent.’
quietes, ‘resting-place,’ ‘lair.’
alid ex alio: see n. to l. 263.
uidere, ‘to understand.’
caecas latebras, ‘dark corners.’
insinuare: here intrans.
protrahere: Lucr. is still thinking of his simile and compares the search for truth to the drawing of a badger from its earth.
pigraris: contraction of pigraueris.
ab re, ‘from the matter in hand.’
de plano, ‘offhand,’ with no pomp and circumstance: a legal phrase: the magistrate might speak either pro tribunali, ‘from the judgment-seat,’ or de plano, ‘from the level ground’; hence the latter comes to mean ‘in plain terms.’
It is very characteristic of Lucr. that he proposes to treat the reluctance of his pupil by a still larger dose of the same medicine.
fontibu’ magnis: the works of Epicurus, the chartae which are praised in iii 10.
suavis, ‘musical.’
diti, ‘richly stored.’
tarda: fem. sing.: Lucr. is indifferent to the ambiguity.
uitai claustra, ‘the fortress of life,’ which is besieged by old age and death: this fine metaphor is repeated in iii 396.
re, ‘topic’: of the existence ofvoid, for example, Lucr. says that he could go on adding proof to proof, until both he and Memmius died of old age.
uersibus, ‘in my poem.’
418-443. The universe consists of two substances only: (1) body, the existence of which is proved by our senses; (2) void, the existence
of which is necessary for the position and movement of bodies. There is no third substance. For every existing thing is either tangible or intangible; but everything tangible is body, and everything intangible is void. Again, every existing thing is either active or acted upon (in which cases it is body), or merely a receptacle (in which case it is void). There is therefore no third substance.

Lucr. now returns from his exhortation to Memmius and takes up the exposition again. For this purpose he translates an extant text of Epicurus in his Letter to Hierodotus: τὸ πᾶν ἐστὶ σῶματα καὶ τόπος: σῶματα μὲν γὰρ ὃς ἐστιν, αὐτὴ ἡ αἰσθήσις ἐπὶ πάντων μαρτυρεῖ, καθ' ἦν ἀναγκαῖον τὸ ἀδήλων τῷ λογισμῷ τεκμαίρεσθαι. τόπος δὲ εἰ μὴ ἦν, δὲν κενὸν καὶ χώραν καὶ ἀναφή φύσιν ὄνομάζομεν, οὐκ ἂν εἴχε τὰ σῶματα διὸ ἦν οὐδὲ δι᾽ οὗ ἐκνεύτω (Usener Epicurea p. 6). All this is closely translated by Lucr.; and there is no other passage of equal length in the poem which we can compare with its source in the text of Epicurus.

This Letter to Hierodotus, one of the documents preserved in the Tenth Book of Diogenes Laertius, was known as the Short Summary (μικρὰ ἐπιτομὴ) of the Epicurean system. There was also a Long Summary (μακρὰ ἐπιτομὴ); and recent editors have argued that the Long Summary is the main source which Lucr. used. This cannot be proved or disproved, because the Long Summary is not extant. But this may safely be said—that Lucr., who speaks of the magni fontes (l. 412) and aurea dicta (iii 12) of his revered master, was not the man to shrink from studying the great work unabridged, the Περὶ Ψυσισ τοῦ Ἀνελεύθερου itself, in all its thirty-seven volumes.

418. *ut repetam...pertexere,* 'to resume the weaving of my task': the inf. is an accus., governed by *repetam.*

419, 420. 'The universe, then, is formed of two substances.'

419. *omnis:* gen. sing. neut. governed by *natura:* cf. Plut. *Adu. Col.* c. 11 (of Epicurus) τὸ πᾶν παντὸς φύσιν ὄνομάζομεν εἰσωθε. The notable fondness of Lucr. for this form of periphrasis (e.g. *natura inanis* for *inanis* l. 363) may be due to the example of Epicurus.

 Cf. Cic. *D.N.D.* ii 82 (Epicurus teaches) *omnium, quae sint, naturam esse corpora et inane et quae iis accidant.*

*omnis ut est* is a genitive, suited to the metre, of *omne quod est* (l. 958).

igitur, 'to resume.'
per se belongs to rebus, not to est: other things, as we shall see, exist in relation to body or void; but body and void exist per se, i.e. are substances: cf. ll. 422, 440, 459.

420. constitit = constat, 'consists': a common use of this past tense, e.g. iii 178: cf. συνεστήκε.
corpora here = 'atoms': but in l. 422 corpus is not 'an atom,' but 'matter' i.e. aliquid quod tangi potest. The existence of matter formed of atoms is proved by sensation, but the existence of atoms could never be so proved.

421. Space, in which bodies are placed, is properly locus (τόπος); space, through which bodies move, is spatium (χώρα): neither of these is synonymous with inane (κενόν).
diuersa, 'in different directions.'
The atoms move and have their being in void, like fish in the sea: see n. to l. 969.

422. per se...sensus = αυτή ἡ αληθής of Epicurus, 'sensation of itself.'

communis, 'common to all men,' appears to be a translation of ἐπὶ πάντων.

That the existence of matter is proved by sensation, was the belief of Dr Johnson also. Boswell asked him whether it was possible to refute Berkeley's doctrine that matter has no existence: 'I never shall forget the alacrity with which Johnson answered, striking his foot with mighty force against a large stone, till he rebounded from it, "I refute it thus!"' The sensus of his toe seemed to Johnson sufficient proof of the existence of the stone.

423. cul, governed by fides, 'our belief in it,' i.e. in sensation.

This belief Lucr. here and iv 505 calls prima fides, meaning that sensation is the original source of all knowledge. According to Epicurus, sensation is the standard of truth, and every impression of the senses is clear evidence (ἐνδοξεία); Lucr. uses the adj. manifestum to render this technical term. See n. to l. 694.

fundata ualebit, 'is firmly established.'

424. haud erit, 'there will be no standard': a noun is required in English.
occultis rebus, 'the invisible world,' τὸ ἀδύνατον of Epicurus. Lucr. uses this phrase to denote the invisible atoms and invisible void: see n. to l. 145.
425. *confirmare*, 'to prove.'

Ani**mi** ratione = λογισμῳ of Epicurus: the mind can exercise reason upon the evidence supplied by the senses.

428. *esse*: for the emphatic position, see n. to l. 24.

neque—meare, 'nor to travel at all in any direction, this way or that.'

429. *ante*: the reference is to ll. 378 foll., where the movement of bodies was discussed: meare here = procedere et concedere there.

(See Munro; but Giussani, perhaps rightly, supposes that the reference is to ll. 335 foll.)

430. *praeterea* = *praetert inane et corpora* (l. 445).

431. *esse*, 'exists,' is made emphatic by position. Lucr. explains here more fully what he means by *per se esse*.

432. 'To count, so to say, as the discovery of a third substance.'

numero adds nothing to the sense.

natura here = 'primal essence': so in l. 446.

433. The meaning is: we shall not include in the list of things that exist anything that does not exist *per se*. *ipsum* = *per se*.

The argument that follows takes the form of a dilemma.

434. *cui si tactus erit*, 'but if it admit of touch,' i.e. of touching and being touched: cf. l. 304.

435, 436. 'Then, provided it exist, it will, by a large or at any rate a small addition, increase the amount of body and be included in the aggregate' of body.

The transposition is necessary: the attempt to keep the MS. order of the lines, with the reading *aliquo*, fails; because void cannot have *augmen* (bulk).

437. *intactile* = ἀναφές, 'incapable of touching or being touched': the word is not used again by Lucr.

440. *praeterea*, 'secondly': quite unlike *praeterea* of l. 430.

This argument takes the form of a trilemma.

441. *alii...agentibus*: abl. absol., = *dum aliae res agunt*, 'other things being the agents.'

fungi = πάσχειν, 'to be acted upon': often used by Lucr. as the passive of *facere* = ποιεῖν, 'to act.'

442. *possint*: Munro keeps *possunt* of MSS., comparing *ita ut debent* of ii 901: but the presence here of *in eo* surely forbids this explanation.
res has two senses here: with esse it = corpora; with geri it = 'processes': cf. ll. 129, 328.


444. nuncans, 'vacancy,' is here treated as a noun.

445. per se goes with natura, as it did with rebus in l. 419.

446. rerum in numero = in rebus of l. 330, 399, 488 etc.: lit. 'in the list of things,' i.e. in nature.

447. 448. Knowledge is derived (1) from our senses, (2) from reasoning based upon sense-knowledge.

apisci, 'to grasp': the compound adipisci was generally preferred to the simple form.

449-482. There are two classes of things which exist merely in relation to either body or void: these are (1) inseparable properties; (2) separable accidents. Time also has no separate existence, but is merely the accident of occurrences. The Stoics maintain that incidents of past history have separate existence; but the truth is that all incidents or occurrences exist merely in relation to one of the two substances, body and void.

Coniuncta and eventa are the terms used by Lucr. to represent ἄληθες παρακολουθοῦντα and συμπτώματα of Epicurus.

449. quaecumque cluent, 'whatever names these two things are called,' i.e. whatever qualities are predicated of body and void. The subject, haec duae res, must be taken from the dat. which follows: for this constr., see n. to l. 15. Lucr. seems here to translate a phrase of Epicurus in his discussion of this subject (Usener I. I. p. 22) ὅσα καθηγορεῖται σώματος (all the qualities that are predicated of body).

The usual rendering, 'whatever things are spoken of,' is unsatisfactory, because this must include body and void themselves. Also, cluree seems always to be used with a predicate.

(This explanation is Mr Vesey's.)

450. harum: so Bernays for horum of mss.: the change seems necessary, because horum could only refer to coniuncta.

451. nusquam, 'in no case.'

452. discidio, 'disruption,' not of the coniunctum but of the res to which it belongs. Thus weight is the 'inseparable property' of a stone (l. 453); and a stone which loses weight ceases to be a stone at all.

sequi gregari: the tmesis is due to the requirements of the metre.
453, 454. The second l. was expelled from the text by Lachmann for two reasons: (1) the two datives ought to be genitives; (2) nouns formed like intactus are used only in the abl. sing.: thus there is a word iniussu, but the nom. iniussus is never found. The second objection is not fatal: Lucr. might have made and used the word intactus to represent áνάφεια (intangibility); and it is noticeable that Epicurus gives ἀνατυφλα (impenetrability) as a property of body, and εἰς (yielding) as a property of void. The real difficulty is that, if we accept l. 454, we must admit in l. 453 a dative in -άι, a form which is never found in the extant literature. I believe therefore that the l. should be ejected from the text.

455. paupertas etc. should be accusatives: the irregularity is rare in Latin but seems natural enough.

Metre has prevented Lucr. from arranging his pairs symmetrically: if he had written libertas diuitiaeque, | paupertas, the nouns would be in the right order, but the -que would spoil the arrangement.

456. cetera—abituque, ‘and all other things which may come and go without injury to the thing itself’: e.g. a man, whether a slave or free, is still a man.

457. natura here, and in l. 687, denotes the res per se, the substance to which the accidents belong.

458. ut par est, ‘as it is right we should’: i.e. we use the word euentum in its natural sense of ‘occurrences.’

459. item: like other euenta, time is not an essential part of the existence of things or persons, but, unlike them, is conceivable in relation, not to corpora but to their euenta: it is an euentum euentorum.

It is remarkable that Lucr., while saying what time is not, does not tell us what it is. But the definition of Epicurus is as follows—σύμπτωμα συμπτωμάτων παρεπόμενον πάθει καὶ ἀπαθεῖαι καὶ κινήσει καὶ μοναὶς (Usener l. l. p. 126): and the latter part of the definition is reproduced by Lucr.

rebus ab ipsis, ‘simply from occurrences’: these are called res gestae below.

460. consequitur sensus, ‘our feeling grasps,’ i.e. we realise. sensus here is mental perception: one might expect ratio to be used instead.

in aeuo, ‘in the past.’
461. *instet, 'is present now': this use of *instare* is perhaps taken from Greek, where *ἐκτὸς* = 'present': it is seen in our phrase, 'on the 10th inst.,' i.e. of the present month.

*porro* = thirdly.

*deinde sequatur,* 'follows later,' i.e. the future.

462. The *non* contained in *nec* belongs to *sentire.*

*per se tempus,* 'time in the abstract': cf. *per se rebus* (l. 419).

463. *rerum* belongs to *quieta* as much as to *motu.*

Compare the definition of Epicurus quoted above.

464. From time Lucr. now passes to the occurrences of past history, and states that these are all merely *euenta* of *corpus* and *locus.* He adorns his argument by selecting the Trojan war as a type of actions and passions in the past.

*deniue,* 'further.' He begins by refuting a fallacy, and then starts the statement of his own view with a second *deniue* (l. 471).

*Tyndaridem—esse,* 'when men say that occurrences, such as the rape of Helen and the conquest of the Trojans by warfare, exist....'

465. *dicunt:* the unexpressed subject is 'the Stoics,' who held that time had independent existence.

466. *per se* goes with *esse.*

467–470. The Stoics prove the separate existence of past incidents thus: 'the men who fought at Troy are long dead: therefore their actions and passions (*euenta*) have existence apart from the men (*per se sunt*).' No, says Lucr. (ll. 469, 470): the men are dead, but the place remains, and the actions and passions are *euenta loci* as well as *euenta corporis.*

468. *abstulerit:* subj. of *oratio obliqua:* this is the argument used by the Stoics.

*aetas,* 'time.'

469. *terris* of mss., constantly emended, was explained by R. L. Dunbabin (*Classical Quarterly* July 1917) to mean 'the world,' and *regiones* 'particular districts,' such as Troy: so Virg. *Aen.* i 460 *quae regio in terris nostri non plena laboris?* Of the events of past history some (*aliud*) have affected the whole world, others (*aliud*) only particular districts. Munro read *Teucris* and Bernays *saeculis,* to represent *corpus;* but it is not necessary that *corpus* should be referred to here.

471. *deniue,* 'further,' = 'the fact is.' Having disposed of the Stoic argument, Lucr. now proceeds to state his own view.
materies rerum = corpus.

472. locus ac spatium are used here by Lucr. for inane, to show his meaning—that the movements described in the next five lines were only made possible by the existence of void as well as body: cf. ll. 426, 427.

474. Phrygio belongs in sense to Alexandri, not to pectore: the figure is used here, to avoid repetition of the i sound.

Alexandros is an Homeric name for Paris.

475. clara, ‘famous.’

476. Trojanis: abl. governed by clam: only one other instance of this construction is quoted—Caes. B. C. ii 32, 8 nonne sibi clam uobis salutem fuga petitit?

durateus...equus: the epithet is taken from Hom. Od. viii 493: Plautus (Bacch. 936) has ligneus equus. Lucr. does not shrink from using Greek words: thus for ‘cubs’ he uses, not catuli, as one might expect, but scymni (σκύμνοι) v 1036; which makes it surprising that he never uses the name atomi for his primordia.

477. nocturno: the Greek warriors sallied forth from the womb of the horse by night.

For this comparison between the fire of love in the heart of Paris, and the fire that burnt Troy, cf. Cic. Verr. ii 5, 92 una atque eadem nox erat, qua praetor amoris turpissimi flamma, classis Romana praedonum incendio conflagrabat.

478. funditus omnis, ‘from first to last.’

479. constare and esse seem to mean the same here.

480. nec—eadem, ‘and are not spoken of in the same way,’ i.e. are not terms of the same kind.

eadem is a spondee here: cf. eadem l. 306.

483-502. Bodies are of two kinds: (1) simple; (2) composite. The simple bodies, because they contain no void, are indestructible. All created things, even if they appear to contain no void, do really contain it, as experiment proves. But reason proves the existence of these simple bodies; and these we maintain to be the primal elements of creation.

Lucr. is again using the Short Summary of Epicurus: τῶν σωμάτων τὰ μὲν ἔστι συγκρίσεις (concilia), τὰ δὲ ή ἐν συγκρίσεις πεποληταί ταύτα (the latter) δὲ ἔστιν ἄτομα καὶ ἀμετάβλητα (unchangeable) (Usener l.l. p. 6).
484. concilium = συγκρισις: see n. to l. 182.
All composite corpora are res, 'created things.'
486. stinguere, 'to destroy.'
solido: the adj. has in this connexion the technical sense of 'free from void': it stands for the epithets πλήρης and σπερβος used by Epicurus.
demum goes with ea, 'they, and they only....'
487. etsi, 'and yet.'
488. in rcbus: see n. to l. 330.
489. saepta domorum, 'the walls of houses': cf. l. 354. These instances are repeated with additions vi 936 foll.
To our senses stone and metal appear to be solida; but they are not so in reality, because other substances can pass through them, or they can be broken up.
491. fere, 'commonly,' is A. E. Housman's conjecture for fero: he quotes Virg. Georg. iii 363 aeraque dissiliunt uolgo.
napore, 'by heat,' the only meaning of the word in Lucr.: in his view, heat was a stream of material particles of fire.
492. cum, 'both,' followed by tum, 'and': I follow Ernout in keeping the MS. reading.
493. glacies aeris, 'the ice of copper': glacies was probably chosen to suit the verb liquescit (melts).
495. quando = quandoquidem, 'since.'
rite, 'in customary fashion.'
496. sensimus, 'we feel at once': some explain this as a 'gnomic' aorist—'we often feel'; but Madvig shows that this construction was probably unknown in Latin of the time of Lucr. (Opusc. Acad. p. 492).
lympharum rore is merely a periphrasis for aqua. The Romans poured water, either hot or cold, into their wine.
497. Sensus (αισθησις) cannot discover the existence of anything solidum; but ratio (λογισμος, reasoning) forces us to admit it.
498. natura rerum here = science, i.e. the study of science.
499. Lucr. promises that in a few verses he will prove two qualities of atoms: (1) soliditas; (2) aeternitas. The second of these depends upon the first.
502. omnis rerum summa, 'the universe,' i.e. all the res (created things) which the universe contains.
503-550. These atoms are solid. For (1) body and void each exist per se: where one is, the other is not; therefore the atoms, being pure body, are without void. (2) The fact that created things contain void shows that the substance which contains this void, is itself without void. These atoms are also eternal. For (1) it is only the presence of void in a thing, which makes it liable to be broken up; and therefore the atoms, because they contain no void, cannot be broken up. And (2), if the atoms were not eternal, all things would have been reduced to nothing, and the visible world would have been produced out of nothing.

Lucr. first gives two proofs that his atoms are solida (ll. 503-519), and then two proofs that they are aeterna (ll. 520-547), and sums up in conclusion (ll. 548-550). But the course of the argument is not kept clear, as will be shown below. Many alterations, by transposition or rejection of verses, have been proposed; but none clears up the difficulties. This paragraph, and the whole passage down to l. 634, must have been left by the author in an unfinished state.

503. natura duarum rerum = duas res: these are the two 'substances,' body and void.

504. longe goes with dissimilis.

505. Where Lucr. is insisting on the absolute distinction between body and void, he ought clearly to call the latter inane, and not locus, res in qua quaeque geruntur; but he has inappropriately retained this phrase from l. 482. See n. before l. 329.

506. sibi per se, aŭrὴν καθ' aŭrὴν, 'for and by itself': a stronger form of per se: again iii 684.

If each of the substances excludes the other, then an atom, which is corpus, can contain no void.

508. eā = ibi.

tenet se, 'maintains itself,' i.e. 'is.'

510. ac here is our i.e.

511. praeterea = secondly.

This second argument deals with atoms in concilio, i.e. when they have combined to form a res, here called res genita, 'a thing produced' out of atoms, with an admixture of void.

512. materiem, 'atoms.'

circum: adverb.

constare = esse.
corpore has not its technical sense here: transl. ‘mass.’

‘Unless you admit that the substance which bounds the void, is <itself> free from void.’

cohabet does not mean ‘imprisons,’ but has here the sense of finire (l. 1004) or dissaepire (l. 1005): the meaning is that, where void leaves off, body begins.

material concilium is the organised sum of atoms in a res.

inane rerum, ‘the void belonging to created things’: that all res contain inane was shown ll. 346 foll. This phrase does not occur again and has been suspected.

Two disconcerting lines. We expect Lucr. to say: ‘Therefore atoms are solid’; what he does say is: ‘Therefore atoms may be indestructible.’ Giussani ejects the lines, saying truly that they anticipate what is said in ll. 538, 539.

519. cetera, i.e. iron, rocks, gold etc. (ll. 490 foll.), which all contain void and therefore can be broken up.

Another obscure passage. It appears at first sight to be a third argument for soliditas. But l. 528 does not begin with the usual signpost, the praeterea or denique which tells us that a new argument begins there. Therefore it seems better to explain that Lucr. begins with tum porro his first argument for aeternitas, and that these lines are merely introductory to that. But the course of reasoning is confused and misleading.

uocaret, retained by Lachmann, is the older spelling of uocare. But I have a suspicion that inane uocamus of l. 507 and elsewhere may be the cause of the spelling given here by Q.

omne, ‘the universe’: τὸ πᾶρ of Epicurus.
certa, ὑπομένα, ‘definite,’ i.e. of limited dimensions.
tenerent, ‘they occupy’: the mood is due to attraction of the preceding subjunctive.

omne quod est spatium = omne, ‘the universe’: see n. to l. 969.

‘Therefore assuredly body is marked off from void <and void from body> in alternate layers.’
alternis, adv., shows that after corpus inani we must understand et inane corpore.

nauiter (adv. of nauus) = prorsus.
The subject of the verb is omne quod est spatium understood.
527. *pleno*: abl. of a noun *plenum*.

*distinguere*, ‘to vary.’

*inane*, here an adj., is elsewhere in *Lucr.* a noun.

528. The *aeternitas* of atoms is now stated, and *two proofs* given 532–539 and 540–550).

*Lucr.* conceives that things are destroyed in either of two ways, either by assault from without, or by dissolution from within: cf. ll. 222, 223.

529. *retexti*, ἀναλύσθαι, ‘to have their fabric undone.’

531 offers another difficulty. To what previous passage does *Lucr.* refer? Some say, to l. 485; others to 518, 519. But the clearest statement of the matter begins with the very next line. Hence some commentators place ll. 532–539 after l. 519.


534. *manabile*, ‘permeating’: see n. to l. 11.

536. *quo...magis*: often in *Lucr.* followed by *tam magis* for *eo magis*.

537. *rebus = enemies*.

*penitus*, ‘thoroughly.’

540. *praeterea = secondly*.

This second proof has served another purpose already (ll. 225–237) and is put briefly here.

541. *antehac* is here a spondee.

543. *supra*: i.e. ll. 149 foll.

546. *quo = ut in ea*.

*quaeque = res omnes*.

*supremo tempore*, ‘at their last hour’: he speaks as if all *res* were living things.

547. ‘That there may be a constant supply of atoms for making new things’ (not ‘for making things new’).

*suppeditet* has the sense of *suppetat*: cf. l. 1040.

548–550. The *fauci versus*, in which *Lucr.* promised to prove two qualities of atoms (l. 499), apparently end here, and he now sums up.

But the reader will observe that a new term, *simplicitas*, appears here for the first time and is repeated below in ll. 574, 609, 612.
There is much difference of opinion here. Giussani considers *simplicitas* to be a third distinct quality of atoms, which was proved separately; if this be so, then something has been lost after l. 547, and these lines are the summing up of a missing proof. As against Giussani's view, it may be noted: (1) that in the final summary of the discussion in l. 627 *soliditas* and *aeternitas* appear alone, with no mention of *simplicitas*; (2) that *simplicitas* never occurs throughout the discussion without an epithet, either *solida* or *aeterna*.

Others maintain that *solida simplicitas* is a mere equivalent for *soliditas* which the metre will not admit.

But *simplicitas* is not merely a synonym of *soliditas*. For some philosophers, notably Anaxagoras and Empedocles, taught that the particles of matter were both 'solid' and eternal but yet infinitely divisible. In the view of Lucretius, *simplicitas* is a consequence of *soliditas*: because atoms are *solida* 'free from void,' therefore they are *simplicia*, 'one and indivisible' (cf. l. 533, ll. 609 foll.). It is mainly this latter quality of atoms that Lucr. is proving, from this point down to l. 634. There is undeniable obscurity in the transition, and for this Lucr. is apparently responsible.

549. *per aeum*, 'through ages.'

551–564. *That atoms are indivisible is proved by the evidence of the senses. For each kind of animal is reproduced and comes to maturity at an age which remains constant for the species. But, because destruction is more rapid than construction, two consequences would follow, if atoms were divisible: (1) reproduction would cease altogether; and (2) the period of maturity of each kind would grow later and later. Lucr. conceives that the atoms into which a *res* is dissolved, are used for the creation of a fresh *res* in a later generation. But, because destruction is more rapid than reconstruction, the atoms, if infinitely divisible, will be suffering dissolution faster than nature can combine them. Thus each generation will start from smaller atoms than its predecessors, so that each new combination will take a longer time to complete.*

552. *frangendis rebus*, 'to the divisibility of matter.'

*iam*, 'by this time.'

553. *usque for usque eo.*

*redacta*, 'reduced' in size.

*aewo*: the infinite duration of time is essential to the argument.
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554. ‘That no thing, formed out of those atoms, could within a fixed time reach the perfect development of its being.’

555. conceptum = *compositum*, but suggests the live animal.

*ad auctum*: so Munro for *finis* of MSS.: this l. came last on p. 23 of the original ms., at the foot of the right-hand page: the genuine reading having perished through wear and tear of the page, *finis*, which gives neither sense nor grammar, was inserted from the context: see ll. 561, 577, 584.

557. *dies et*: so Madvig for *diei* of MSS.: cf. l. 233. There is no other example in Lucr. of *et* ending a line; but the complication of the double genitive seems equally unexampled. Munro, who keeps *diei*, translates thus: ‘the long, the infinite duration of all bygone time’; which takes no account of *diei*.

559. *fregisset*: the subjunctive is due to the attraction of *posset*: cf. l. 522.

560. *relicuo*: cf. iii 648, iv 976. The convenient form *reliquus* is used only by the post-Augustan poets: in Plautus the scansion is *relicius*: Lucr. lengthens the first syll. (as in *religio*) and so can use it in his verse. Virgil, Horace, and Ovid never use the word, prevented by the three short syllables with which it begins.

*reparari*, ‘be reproduced,’

562. *reflci*, ‘is repeated,’

*rem quamque*, ‘each kind of creature.’

563. ‘And also that definite periods are fixed for creatures according to their kind....’

For example, all horses come to maturity in three years. The reason is that the atoms, which form the starting-point for the making of a new horse, remain for ever identical. If the atoms could grow smaller, each new generation of horses would take longer to come to maturity.

565-576. *If it is true that atoms are perfectly solid, it is nevertheless possible to explain the existence of soft res by the presence of void in them; but, if atoms are soft, it is impossible to explain the existence of hard res such as iron and stone.*

This seems to me to be an argument for *soliditas* and not for indivisibility: in l. 574 the emphasis may fall on *solida*. Giussani, however, differs: he explains *mollia* in l. 570 as = *fragilia*, i.e. divisible. But where else in Lucr. has *mollis* this meaning?
565. huo accedit, uti =secondly.
566. cum constant, 'while the atoms are...': for this archaic constr., cf. l. 726: Cicero would write cum constant: and Lucr. himself has subj. in l. 519.

reddi = expediri, 'to be explained,' 'accounted for': cf. ii 178 ausim | confirmare aliiisque ex rebus reddere multis. Epicurus used ἀποδοθῆναι in this sense.

567. fiunt, 'are formed.'

uapores, lit. 'heats,' = ignis. These are the four elements out of which Empedocles held that matter was formed. Lucr. here says in effect to Empedocles: 'With my atoms and void I can account for your four elements; with your four elements you cannot account for such substances as stone and iron.'

568. quaeque, 'each of them.'
571. unde, 'out of what.'
572. non poterit ratio reddi, 'an explanation cannot be given': cf. reddi above.

funditus goes with carebit, omnis with natura, 'their whole nature' (Munro); but perhaps 'all nature' is better.

573. principio fundamenti, 'a starting-point of solidity': cf. l. 339 principium cedendi.
574. sunt: sc. primordia.
576. artari, 'be closely massed': cf. arte l. 610.

577-583. If it be granted that atoms are divisible, still we can only explain the actual existence of matter by means of indestructible particles of some kind. But it is impossible to believe that any particles, if divisible, could defy the destructive power of infinite time.

This third argument begins with words almost identical with those used in l. 551. The arguments are closely related. Hence Giussani places ll. 577-583 after l. 564. The reasons for transposition are strong; but so much here is uncertain that I leave the lines where they stand.

577. si has the sense of etsi: 'even if' we grant the infinite divisibility of matter.
578. quaeque...corpora = cuique rei sua corpora.
579. superare has the sense of superesse: cf. l. 790.
corpora, 'material particles.'
580 lueant = sint.
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581. quoniam, 'since' on the hypothesis which Lucr. denies.

fragilis = quae polet frangit, 'divisible.'
constant = suum.

582. discrepant, μάχεται, 'it is inconsistent' with the hypothesis in question.

manere, 'to continue to exist.'

584-598. The regularity, with which birds of the same species present the same markings, and the offspring of all animals repeat the habits of their parents, is a proof that the atoms, out of which each kind of creature is made, are unchangeable.

Proof is now given that atoms are unchangeable, immutabilita, ἀμεραβλητα in the language of Epicurus.

585. rebus, 'creatures' here. Each kind grows to a certain size and lives for a certain period; and these laws, by which they and all other created things are governed, were laid down (sancitum) by Nature at the beginning and can never be broken.

586. foedera natural: again ii 302, v 310: and the same laws are called fati foedera ii 254, and aeui leges (eternal laws) v 58.

587. exstat = est.
The ending of this l. is exceptionally harsh in rhythm.

588. quin—ut, 'nay all things are invariable, to such a degree that...': for constant, cf. l. 165.

589. uariae, either 'different,' or 'of different colours' (ποικιλαί). in ordine, 'one after another.'

590. generalis, 'common to their kind.'

591. The apodosis begins here.

immutabili': this elision is rare except in the fifth foot of the verse; but cf. l. 978.

quous goes with materiae (atoms).

592. debent: the subject is noluccres.

Thus variation of species is denied by Lucr.; yet he had a clear notion of natural selection: cf. v 855-877.

594. quid possit—haerens: repeated from l. 75 foll.

We now learn that the immutability of natural law is due to the immutability of the atom.

597. saecla: see n. to l. 20.

598. motus: e.g. all ducklings take to the water, but all chickens run about on land.
599–634. We infer that the atom has parts, (1) from the analogy of other corpora. The nature of these parts is an additional proof that the atom itself is indivisible. The existence of these parts is further necessary, because (2) otherwise, infinites being equal, the universe would be equal to the smallest object it contains; (3) without these parts, atoms would not possess those properties which are indispensable for the making of res.

We now learn that there are not two but four gradations of corpus: (1) res, e.g. a house or a man; (2) rei cacumen, the smallest part of a res which our eyes can grasp; (3) the atom; (4) the cacumen of the atom, also called minima pars, which is the subject of this paragraph. The first two are perceptible by the senses (αλσθητά); the last two only by the reason (θεωρητά).

It would be natural to suppose that an object consisting of parts can be divided into those parts. It is characteristic of Lucr. to carry the war into the enemy's country, by insisting that the nature of these parts is a fresh proof of the indivisibility of the atom.

599–601. Munro did a great service here for the text of Lucretius. Guided by ll. 749–752 and by a text of Epicurus (ταύτα τῷ ἀναλογίᾳ νομιστέον καὶ τὸ ἐν τῷ ἄτημῳ ἐλάχιστον κεχρησθαί, 'we must suppose that the minimum in the atom follows this analogy' of the minimum in visible things), he divined that some lines had been lost owing to similar endings, and suggested the supplement here printed in italics.

599. quodque, 'in each case': cf. l. 578: the full phrase would be sunt suar cacumina quibusque corporibus. cacumen, πέρας, 'bounding-point': the term is misleading, because it suggests the 'top' of an object; whereas both res and atoms consist entirely of cacumina. See n. to ll. 749, 750.

600. corporis, i.e. the invisible atom.

601. iam nequeunt, 'cannot include' in their vision: an idiomatic iam: cf. Cic. De Fin. v 14 Hieronymum, quem iam cur Peripateticum appellem nescio (why I should include him in the list). In these and similar cases, the literal translation, 'no longer,' is bad English.

1d, i.e. the cacumen or part of the atom.

These parts are mentioned in only one other place in the poem—ii 485 fac enim minimis e partibus esse | corpora prima tribus, uel paulo pluribus auge. Convinced that some parts were necessary,
Epicurus was willing to concede that the number of parts was very small.

\textit{exstat} = \textit{est}.

602. \textit{minima constat natura}, 'is a minimum': \textit{minimum} is here a technical term, denoting 'ultimate least thing in nature.'

\textit{nec fuit}, 'and has not existed.'

604. 'Since it is essentially (\textit{ipsum}) a primary part and a single part of the other thing,' i.e. of the atom.

\textit{ipsum} = \textit{per se}.


\textit{naturam corporis}, 'the atom.'

The language seems to suggest more than three parts, in spite of the passage quoted above.

608. \textit{haerere}: sc. \textit{ibi}.

609–612. It will be found convenient to translate \textit{primordia} here by 'the atom,' the plur. being reserved for its parts.

610. 'It is massed together and coheres closely by means of its least parts.'

\textit{artē}: adv.

611. Lucr. here rules out a heresy, much in the manner of the Athanasian creed: \textit{primordia} meet in \textit{concilium} to make a \textit{res}; but it must not be supposed that an atom itself is formed by the assemblage (\textit{conuentu}) of its parts.

612. \textit{magis} = \textit{potius}: cf. l. 481.

613. \textit{unde}, 'from it,' i.e. the atom.

\textit{iām}, 'further.'

615. \textit{praeterea} introduces a second argument for the existence of these parts, the first having been drawn from analogy; the second is a \textit{reductio ad absurdum}.

\textit{paruissima quaeque}, 'all very small bodies': this superlative is used by Lucr. elsewhere, e.g. iii 199: here it differs in sense from the technical \textit{minimum}.

617. \textit{quippe ubi}, 'since in that case': cf. l. 242.

\textit{pars}, i.e. \textit{dimidia pars}.

618. \textit{nec res uilla} = \textit{et nil}.

\textit{praefiniet}, 'will put an end to the division.'

619. \textit{rerum summam}, 'the universe.'
minimam (rem supplied from rerum) = paruissimam rem: if Lucr. had meant the part of the atom, he would have written minimum.

quid escit would be quid intererit in prose: esce is an inceptive form of sum, so that its present can be future in meaning.

620. nil erit ut distet: lit. 'it will turn out that there is no difference': a periphrasis for nil distabit.

funditus, 'absolutely.'

622. The absurdity depends on the assumption, that all infinites are equal. To Lucr. this is so obvious, that he does not even state it; Newton corrects him, saying that 'infinites are neither equal nor unequal, nor have any certain difference or proportion one to another.'

623. quod, 'but': cf. l. 82: if it were governed by re clamat, cui would be required.

ratio uera, 'logic': cf. ll. 51, 498: in each place the sense is different.

625. iam means 'when you come to them.'

exstent = sint.

627. illa quoque, 'the atoms also' as well as their parts.

solida atque aeterna: here Lucr. returns to the two qualities of which he spoke in l. 500.

628. denique, 'thirdly,' introduces a third proof that the atom must have parts.

minimas in partis, i.e. into the cacumina of the atom: res are broken up into atoms; but there the breaking stops.

630. eadem: fem. sing.: 'Nature too would no longer be able to make any new thing out of those parts.'

632. ea, 'those properties.'

genitalls = ut res gignere possit.

633. The motion of atoms, their 'entanglements, weights, blows, and clashings' are discussed in Book ii.

634. motus, placed last, is the emphatic word. All creation is due to the inherent motion by which the atom swerves from the perpendicular, as described in Book ii 216 foll. Aristotle had laid down that a thing without parts cannot have inherent motion; and for this reason, apparently, Epicurus determined that his atoms, though indivisible, must have parts.
635–920 form the polemical section of the book. Lucr. here seeks to disprove certain rival theories of the composition of matter maintained by other philosophers: these are (1) Heracleitus; (2) Empedocles; (3) Anaxagoras. Of these the first is treated most severely, because Heracleitus was to the Stoics what Democritus was to the Epicureans—the originator of their physical science, and the contest between the two schools was still keen in the time of Lucretius. In speaking of Empedocles, on the other hand, Lucr. uses the language of reverence and even of affection.

635–644. Therefore those who have held that all things are formed out of fire, are widely mistaken. The chief of these is Heracleitus, whose fame is mainly due to his oracular style.

635. quapropter, 'for this reason,' that Lucr. has proved the elements of matter to be atoms.

materiem rerum, 'the primary substance' or ἀρχή, out of which all things are made.

636. summam, 'the universe,' i.e. everything contained in the universe.

637. lapsi...uidentur, 'have evidently strayed.'

638. Heracleitus of Ephesus, the greatest of the Ionian philosophers, was born about 500 B.C. Of his treatise Περὶ Φύσεως only fragments are preserved. Both Socrates and Cicero complained of his obscurity; and there is still a great dispute as to the nature of his primordial fire.

init proelia primus: this only means that Lucr. is going to attack him before anyone else.

639. clarus—linguam, 'whose fame is bright because of his dark sayings': he was known as ὁ σκοτευόβις for this reason.

inanis, 'frivolous.'

640. quamde: an old form of quam.

641. stolli, 'fools': a retort aimed at the Stoics, who applied this epithet to all mankind except their ideal Sage (sapiens).

642. inuersis...uerbis, 'symbolic language': cf. Quint. viii 6, 44 ἀλληγορία, quam inersionem interpretantur, aliud uerbis, aliud sensu ostendit. The fragments of Heracleitus are full of such language: e.g. he expressed the constant process of change in things by the words πάντα ἔστι. Epicurus, on the contrary, insisted that words should be used in their simple sense: ἀνάγκη τὸ πρῶτον

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εὐνόμα (the simple sense) καθ’ ἐκαστὸν φθόγγον βλέποισθαι (Usener l. l. p. 5).

643. tangere, 'to tickle.'

644. fucata sonore, lit., 'coloured with sound': a mixture of metaphors surprising in Lucr.: it seems probable that he is mocking the figurative style of Heracleitus.

645–689. The immense variety of visible things is inconsistent with the view that they are all alike made of fire. For (1) if the particles of fire retain their heat, anything made out of them would be more or less hot; (observe also that condensation and rarefaction of fiery particles is possible only if void exists, which is denied by these thinkers); and (2) if the fiery particles do not retain their heat, they merely cease to exist and can produce nothing. The fact is that there are certain material and unchangeable particles, not made of fire themselves, which by virtue of their combination make fire, and can, by a different method of combination, make other things, though they do not possess the sensible qualities possessed by the things they make.

647. It will not help them, says Lucr., to maintain that hot things are made of fiery particles closely packed, and cold things of fiery particles loosely packed.

649. naturam, 'character,' i.e. hotness.

super, 'as well': an adv. often used by Lucr.: the word belongs to haberent and is misplaced here.

651. disque sipatis: for the tmesis made necessary by the metre, cf. l. 452.

653. talibus in causis, 'where the conditions are such': this idiomatic use of in, common in all the best writers, cannot be translated literally.

uariantia, 'diversity,' is a word coined by Lucr. to take the place of the unmetrical uāriētas.

655–664 is a parenthesis, in which the argument of ll. 396, 397 is more fully stated.

655. id quoque = praeterea: not used again by Lucr., but the phrase occurs in Plautus and at least once in Ovid, Trist. v 3, 53, where idque ita is a needless emendation.

faciant, 'they were to assume': cf. l. 667: the subject of this and the following verbs is qui materiem rerum esse putarunt | ignem (l. 635), i.e. the followers of Heracleitus.
admixtum rebus: see n. to l. 369. The Stoics admitted the existence of void outside the world, but denied void within it.

657. nasci, ‘arise’: so Munro for musae and mus of MSS.: the word came last on p. 27 of the archetype and was therefore specially liable to injury: see n. to l. 554.

musae is kept by Ernout and explained by a reference to Diog. Laert. ix 1, 12, where it is said that some called Heracleitus’s book by this name. But neither this passage, nor Plato Soph. 242 D, proves that Musae was the recognised title of the work. Also, it seems impossible that cernunt here should have a subject different from that of faciant above and the following verbs.

Lachmann’s note shows that he anticipated and rejected this explanation.

658, 659 have been transposed in the text: I feel that 659 expresses a result rather than a cause.

658. ardua...uiai, ‘the steep road,’ uera uiai, ‘the right road’:

660. rursum, ‘on the other hand.’

cernunt here refers to cernunt of l. 657.

exempto rebus: see n. to l. 369.

662. mittere, ‘to discharge.’

663. In the view of Lucr., light and heat (vapor) are merely diffused particles of fire.

665. A second conceivable explanation is now refuted.

alla ratione, ‘by another process of reasoning’: this belongs to credunt, not to stingui.

666. ignis, i.e. the particles of fire.

in coetu, i.e. when they meet to make a res, coetus being used in the sense of concilium: cf. l. 772. For coetus in this sense, cf. ll. 1017, 1026 etc.

Lucr. is applying the technical terms of his own theory to the theory of Heracleitus.

stingui: not metaphorical here, as in l. 486.

corpus here = naturam, ‘their characteristic’ of heat.

667. ‘You must know, if they shall not refrain from asserting this at every point,’ i.e. if they assert that this takes place invariably.

reparcent = parent: the subject is the same as that of faciant in l. 655. Some supply ignes as subject.
669. But we know already that out of nothing nothing can be produced.

670. ‘For, whenever a thing changes and quits its proper limits, at once this change is the death of that which was before’: i.e. a thing is what it is in virtue of certain characteristics (fines) which make it what it is: if it loses these characteristics, it ceases to exist.

Lucr. evidently attaches great importance to this dogma which he repeats thrice (l. 792, ii 753, iii 519). No doubt he found it in Epicurus. It states the main result of the Eleatic philosophy, and denies the transformation theories of the Ionic philosophers, who believed that the ἀρχή or primary substance of matter could be transformed, e.g. that fire might be the ἀρχή and yet could, by transformation, produce water. The Eleatics asserted the immutability of substance.

671. hoc: note that this is not the antecedent of quodcumque above.

672. superare = superesse: cf. l. 579.

ollis refers either to ignis (l. 666), or to quaecumque creantur (l. 669). The form ollis is often used at the end of a line by Lucr. for dat. pl. of ille: Virgil seems to use only olli, dat. sing.

673. funditus qualifies omnes.

674. copia = the usual summa.

675. nunc, ‘in fact.’

677. abitu aut aditu: other passages show that some only of the atoms depart and some others are added, in each case.

678. corpora = res, and are quite different from corpora in ll. 675, 679. Lucr. is indifferent to such ambiguities, but he would probably have avoided them in writing prose.

679. ignea is the predicate.

680. nil referret, ‘it would make no difference’ : cf. l. 965.

quaedam, ‘some atoms.’

683. omnimodis, adv., belongs to foret.

684. itast, ‘the fact is this.’

686. mutant naturam, ‘change the thing they make’: for this sense of natura, cf. l. 457.

Do not impute to Lucr. the statement that atoms change their nature: cf. l. 676.

687. simulata = similia.

688. praetera = alii, ‘other.'
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689. **tactus** represents ‘sense of touch’: see n. to l. 303.

All senses are considered as forms of touch. Lucr. explains (iv 46 foll.) that all res are continually discharging films (*simulacra, = corpora* of l. 688) from their surface; these films strike upon our organs of sense and so produce sensation. But atoms, because they contain no void, are incapable of discharging films.

690-704. *The dogma that nothing exists except fire is mere folly, and defies the evidence of our senses. The senses are our only test of truth, and they tell us of the existence of other things just as clearly. Why should fire be chosen out in preference to any other perceptible thing?*

Having attacked Heracleitus for his theory of the composition of matter, Lucr. now attacks his theory of perception, and charges him with inconsistency.

691. **in numero rerum** = **in rebus**: cf. l. 270. The repetition, re. rem, rerum, is characteristic.

**constare** is either = esse, or means ‘remains unchanged,’ as in l. 165.

692. **facit**: cf. l. 655.

**perdelirum**, ‘sheer madness’: not found elsewhere.

693. Heracleitus accepts the evidence of the senses in the case of fire, but rejects it in the case of all other qualities perceptible to the senses: thus he is inconsistent.

**ab sensibus**, ‘while defending the senses’ in the case of fire: cf. Cic. *De Invent. i* 4 *a mendacio contra verum stare* (to defend falsehood against truth): this use of *ab* is commonest in the language of the law-courts.

694. Following Epicurus, Lucr. repeatedly asserts that the senses are the only court of appeal, and sensation the only guarantee of reality: cf. ll. 423 foll., and esp. iv 379–521. For Epicurus, cf. Usener l. l. p. 5 κατὰ τὰς αἰσθάνεις δὲι πάντα τηρεῖν; Cic. *De Fin. i* 22 (of Epicurus) *indicia rerum in sensibus ponit*.

But Heracleitus distrusted sense-knowledge: he said, *κακὸν μάρτυριν άνθρώποις δόθαιμοι καὶ ότα, and again, διὰ τούτων (i.e. the senses) γινώσκει άνθρώποισιν άγνωσίγ*.

**unde...pendent**, ‘on which all our beliefs depend’: *unde = a quibus.*

696. **cognoscere uere**, ‘have a true perception of....’

697. **cetera**: supply *sensus cognoscere uere.*
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698. unum, 'untrue': here, as often, an exact synonym of falsum.

699. quo, 'to what standard': cf. l. 424.

700. qui: abl.

701. tollat, 'abolish,' i.e. 'deny the existence of...'

702. aroris naturam = ardorem: see n. to l. 419.

703. esse relinquat, 'admit the existence of...': for the sense of relinquere, cf. l. 515.

705-733. There is no truth in the view that any one of the four elements, fire, air, earth, and water, is the primary substance. Those are equally far from the truth, who couple air with fire or earth with water, or who maintain that all the four elements are primary. The chief champion of the last view is Empedocles, the greatest glory of the famous island of Sicily, and a poet almost divine.

705, 706 repeat 635, 636, differing only in the last word.

707. aera: this was the ἄρχη adopted by Anaximenes, as water (umorem) had been adopted by Thales (b.c. 640-550). Lucr. inverts the historical order of the three philosophers.

710. rerum naturas = res. uertier: see n. to l. 207.

712. adde = and also: again iii 1037.

conduplicant p. r., 'take two elements for their basis of matter.'

714. rebus, 'elements.'

715 anima is an alias for acre, imbri for aqua.

716. quorum goes with cum primis: others maintained this theory as well as Empedocles.

Empedocles of Agrigentum (b. 500 B.C.) wrote two scientific poems, Περὶ Φωσεως and Καθαρμολ, of which nearly 400 verses are extant; and Lucr. here expresses his gratitude to one who had expounded in hexameter verse a theory not differing widely from his own. He plainly ranked him high among the graues Graii qui uera requirunt.

717. triquetris: so Horace (Sat. ii 6, 55) calls Sicily, whose real name is inadmissible in dactylic verse, triquetra tellus. Virgil takes refuge in Trinacria, Ovid in Trinacris.

terrarum oris is no more than finibus: again l. 721.

719. uirus, 'the brine.'

720. angusto fretu rapidum, 'racing in its narrow channel,' i.e. the Straits of Messina.
For *frēlus*, -ēs, m., cf. vi 364.

_undis_ ends two successive lines: this seems permissible in Lucr., though some editors have recourse to emendation.

721. _eius_ should be _eius_, but a demonstrative pron. is substituted for a second relative: there are many instances of this constr. in Lucr., e.g. l. 686 (where _quae_ as subject of _mutant_ would be regular), l. 154, l. 850.

722. _Uasta_, ‘waste’: see n. to l. 115.

723. _murmura_, ‘rumblings’: this word always denotes an inarticulate noise, not necessarily a subdued noise.

colligere, ‘are nursing.’

724. _eruptos_: _erumpere_ is often active in Lucr.

iterum, ‘once more,’ not ‘a second time.’

726. _cum_, ‘while,’ followed by indicative: see n. to l. 566.

727. _uisenda_, ‘worth visiting.’

728. Sicily is (1) fertile, (2) populous.

731. _pectoris_, ‘genius.’

Lucr. speaks of these poems with special emphasis, because he had found them, though inadequate scientifically, of service as models to himself.

734–762. Empedocles was far greater than his predecessors, who themselves did much more to discover truth than the oracle of Delphi. But he and they alike failed utterly to explain the composition of matter. Their errors are four: (1) they deny void; (2) they maintain the infinite divisibility of matter; (3) their particles are soft and therefore liable to destruction; (4) their particles are mutually destructive and therefore unable to combine.

734. _inferiores_, than Empedocles.

735. _partibus egregie multis_, ‘immensely,’ seems to be equivalent to _omnibus partibus_, for which see Madvig on Cic. _De Fin._ ii 108.

Lucr. has _multis partibus mobilior_ iv 342.

738, 739 are repeated v 111, 112.

certā magis is used for the unmetrical _certiore_.

740. _tamen_ answers to _quamquam_ l. 736.

_fecere ruinas_, ‘have come crashing down’: cf. Cic. _De Fin._ i 18 _illae Epicuri propriae ruinae_ (the capital error which follows is peculiar to Epicurus): the phrase is peculiar and may be taken from this line of Lucr.: see n. to l. 74.
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741. magni magno...casu, 'great men were they, and great was their fall': an echo of Hom. II. xvi 776 κεῖτο μέγας μεγαλωστή.
ibi, =in principiis, is emphatic.

742-5. Their first error is twofold: (1) while believing in motion, they deny void outside res; (2) while admitting that some res are soft, they deny void inside res.

742. rebus =rerum numero, 'the universe': see n. to l. 330. For the impossibility of motion without void, cf. ll. 335-345.

743. constituant, 'they allow.'
raras, 'porous.'

744. rorem: solem mss.: but the sun does not seem a good instance of something soft and porous; also, of the four elements of Empedocles one (water) is omitted, while fire is represented twice over. For these reasons Christ's emendation is accepted.

For rorem =aquam, cf. ll. 771, 777.

746. Their second error also is twofold: these philosophers deny (1) the indivisible atom; (2) the least parts of which the atom is composed.

747. frangori =frangendo, 'the process of division.'

748. prorsum =omnino.
in rebus =in rerum numero.

749-752. 'Though we see that the extremity of anything is that which, judged by our senses, is seen to be the minimum'(i.e. the least perceptible thing in nature); 'hence you can infer that, since things which you cannot see' (i.e. atoms) 'have an extremity, there is a minimum in them also.'

For this extremum =minimum =cacumen, see nn. before l. 599 and to l. 599.

750. uidetur, 'is seen,' not 'seems': there is no deception in the matter: the cacumen of a res really is a minimum in the visible sphere, and the cacumen of an atom is a minimum in the invisible world grasped by thought alone.

(Giussani argues that the cacumina of a res denote the smallest particles which retain the properties of the substance: e.g. the cacumina of milk are white and sweet; but any further division reduces them to atoms which are neither white nor sweet.)

752. quod is taken above as =quoniam: it is possible that it may be a relative pron. governed by habent.
753. _huc accedit item_ = thirdly.
754. _natia_, 'to have birth,' = _mortalia_: see n. to l. 113. We have seen that the atoms of Lucr. are both _sola_ and _aeterna_.
755. _utqui_, after _accedit_: also ii 17, iii 738, and (by conjecture) ii 428. The word is common in Plautus (e.g. _Capt._ 553, _Trin._ 637): it means no more than _ut_: cf. _at_ and _atqui_: the abl. of the pronoun has become a mere enclitic conjunction or adverb like _πῶς_ in Greek.
756. _iam_, 'in that case.'
758. _iam_ belongs to _habebis_: 'you will understand already' from the proof given in ll. 159–264.
759. _deinde_ = fourthly.
As subject of _sunt_, supply _illorum primordia_.
760. _congressa_, 'when they meet,' in the endeavour to make a _res_: cf. l. 666.
761. _tempestate coacta_, 'when a storm has gathered': the verb implies the packing of thunder-clouds.
762. Note that this is not a mere illustration but an argument as well: in a thunderstorm we see that three of the four elements, represented by the lightning, the rain, and the wind, do actually refuse to coalesce.
763–781. The four elements, on this theory, are too much akin to the things they make, and are constantly being transformed into them, and back again. It may be maintained that these elements retain their characteristics: if so, they cannot unite to make anything. The particles which form the basis of matter must not be either hot or cold, if they are to make both hot and cold things.
After refuting the Ionic philosophers in general, Lucr. now comes to close quarters with the theory of four primary elements, and he distinguishes two forms of it: (1) the form in which the elements undergo change; (2) the form in which the elements remain unchanged. The second is the theory of Empedocles.
763. _rebus_, 'elements' here and l. 764, but 'products of the elements' in ll. 765, 766: the ambiguity here is specially awkward: is it possible that Lucr. intended to show by this means the importance of a proper distinction between _res_ and _primordia_, and to illustrate the confusion caused by the absence of such a distinction? But one cannot be sure of this, because ambiguity is so common in the poem.
765, 766. 'Why should the elements be called the basis of matter, any more than matter the basis of the elements, the supposition being reversed?'

res illorum, sc. primordia dici.

Giussani says that this argument is unsound and might be directed against the atoms of Lucr. himself. He imitates it thus: 'if houses are made of bricks and can be broken up into bricks, you might as well say that bricks are made of houses, as that houses are made of bricks.' But these primordia are not merely put together like bricks: it is said just below that they constantly change their nature. The imitation seems therefore not to be justified.

767. alternis, 'turn about': adv.: cf. l. 524.
gignuntur: the subject, not expressed by Lucr., is 'the elements and their products.'

mutant inter se, 'exchange': cf. l. 375.
colorem, 'quality.'

769. naturam, 'characteristics.'
tempore ab omni, 'from everlasting.'

770. The argument used against Heracleitus (ll. 647 foll.) is now repeated against Empedocles.

ignis: acc. plur.: cf. ll. 666, 686.

772. nil governs eorum.

774. animans: a noun: see n. to l. 4.
exanimo cum corpore, '<thing> with lifeless body.'

775. quippe, 'for.'
in...acerui, 'in the meeting of the discordant mass.'

776. uidebitur: passive.

779. 'Must bring to bear characteristics that are hidden and unobtrusive.'

Lucr. proves at length in Book ii (ll. 730 foll.) that atoms have no secondary qualities, neither colour nor temperature nor taste nor smell: the only qualities they possess are size, shape, and weight.

Note that caecam here does not mean 'invisible': the atoms are invisible, but the point here is different.

780. emineat, 'stick out,' 'be prominent.'

For example, if atoms were hot, then, when they met to produce ice, their hotness would be obtrusive and would prevent the ice so
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formed from having the coldness of ice. But, as atoms are neither hot nor cold, it is not strange that they should make both fire and ice.

782-802. The Stoics wrongly teach that the four elements are transmuted in a regular series into one another; but transmutation of this kind means destruction and not creation of anything. These changing elements must themselves be formed of unchangeable atoms, and these atoms, by change of arrangement and motion, can produce all the variety of matter.

Lucr. has now done with Empedocles and assails the theory already denounced in ll. 763-769. The form of this theory which he selects is the ὁδὸς ἄρω κἀκε ὑμείς of Heracleitus as developed by the Stoics, ‘the ascending and descending series’ in which the four elements pass into one another. To this hypothesis he opposes the argument which he has used already against the fire of Heracleitus.

782. quin etiam, ‘still further’: Giussani renders ‘still worse’: and there is no doubt that Lucr., who rejected the theory of Empedocles, that res are formed by the mixture of four elements, was even more opposed to the Stoic theory that one element is transformed into another.

repetunt a, ‘they start with...’; ‘they’ are the Stoics: cf. l. 655.

783 faciunt, ‘maintain’: cf. l. 692. Cicero often uses, of a philosophic tenet, placet governing a dat.

784. imbrem = aquam.

785. retro, ‘in reverse order.’

787. inter se mutare: in phrases of this type, Latin idiom dispenses with se as object of the verb: e.g. pueri inter se amant (the boys love one another).

788. mundi = caeli.

This theory is stated by the Stoic Balbus in Cic. De N. De. ii 84 cum quattuor genera sint corporum, uicissitudine eorum mundi (the world) continuata natura est; nam ex terra aqua, ex aqua ortitur aer, ex aere aether (=ignis); deinde retrorsum uicissim ex aethere aer, inde aqua, ex aqua terra infima: sic naturis itis, ex quibus omnia constant, sursus desorsus, ultro etro communimentibus mundi partium continuatio contentur. And the Academic Cotta refutes the theory by using the same argument as Lucr.: l.l. iii 31 omnia haec tum interent, cum in naturam aliam convirtuntur; quod fit, cum terra
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in aquam se uertit et cum ex aqua oritur aer, ex aere aether, cumque eadem uicissim retro commeant.

789. haud ullo...pacto, 'on no account.'
790, 791. Cf. ll. 672, 673.
792, 793 = 670, 671, where see nn.
794. ante: i.e. in ll. 783–786.
795. commutatum = commutationem: no case of any noun in -ātio could be used by Lucr. in his verse: it was fortunate that the a in ratio is short.
796. convertier: see n. to l. 207.
797 = 673.
798. quin...constitutas, 'why should you not suppose...': the verb is here followed by acc. and inf.: for a different constr., cf. l. 743.
tali natura praedita = immutabilia.
800. eadem = also.
801. ordine is their position in relation to one another.
motu: we learn in Book ii that all atoms, whether free in space or temporarily combining to make a res, never cease to move at an enormous speed. This movement is of great importance in determining the qualities of any res.
802. sic = et sic.
803–829. It is true that growing plants need each of the four elements in some form, just as a man, if deprived of his appropriate food, would waste away and die. In both cases, the explanation is the same: there are atoms common to the food and the thing fed, and these are absorbed by the latter. Even if many atoms in any two res are the same, yet their arrangement and motion have great influence to determine the result produced by their union. The relation of letters to words illustrates the relation of atoms to res.

The imaginary objector implies that, because the four elements are necessary to plants, therefore the plants are identical with the four elements. Lucr. admits the argument, but denies the conclusion. He says in effect: 'Let us examine the facts of nutrition generally. As plants need rain and sun, air and earth, to feed them, so animals feed on plants. This is possible, because there are atoms common to the rain and the plant, and also atoms common to the plant and the animal. In each case the common atoms are absorbed as food;
but in neither case is the thing fed identical with its food.' Lettuce, which feeds on rain, is not made of rain; a rabbit, which feeds on lettuce, is not made of lettuce.

See n. to l. 196, where the same argument is very briefly stated.

803. *manifesta...res*, 'plain facts': the objector adopts the Epicurean standpoint and appeals to the evidence of the senses: cf. l. 893.

804. *res* here are plants and trees.

805. *tempestas*, 'the season.'

*indulget*, 'gives free play,' governs *imbribus*.

806. *tabe nimborum*, lit. 'by the melting of the clouds,' i.e. by the rain.

*arbusta* here and below = *arbores*.

807. *calorem* = *ignem*, the last of the four elements.

808. *fruges*, 'corn': so always in *Lucr*.

*animantes* is irrelevant here, but is added as the last item of a familiar series: cf. l. 821.

809. *scilicet*, here and l. 901, = 'true': used again in this sense vi 674.

*aridus*, 'solid.'

810. *corporë*, 'flesh': cf. l. 1039.

812. *adiutamur*, 'we get support.'

813. *certis ab rebus*, 'from definite food': but *res* = 'creatures': for the confusion caused by different meanings of *res*, cf. l. 763 foll.

814–816. I.e. *A* can feed on *x*, because many kinds of atoms are common to both (*communia*), but not on *y*, because, although *A* and *y* may also have many kinds of atoms in common, the atoms of *y* are not, like the atoms of *x*, so arranged as to nourish *A*.

*multis, multarum* = *uariis, uariarum*.

815. *multarum* is governed by *communia*: for dat., cf. l. 824.

816. *sunt*: for the emphatic position, see n. to l. 24.

817. *magni refert*, 'it makes a great difference': cf. ll. 680, 965.

818. *cum quibus*, i.e. 'with what others?': the atoms which form any two kinds of *res* are not absolutely identical: cf. l. 800.

*contineantur*, 'they are held in union.'

819. 'And what motions they mutually impart and receive': *Lucr.* is referring to the internal vibrations of atoms when combined: see n. to l. 801: the subject is treated in Book ii.
The list represents the four elements, *caelum* being *aera*.

*aliis* goes with *commixa*, *alio modo* with *mouentur*.

*passim*, 'everywhere.'

*Cf. 11. 197, 912 foll., and ii 688 where this passage is repeated with a supplement. Lucr. has a passion for this illustration which he may have found in writings of Epicurus, and which is perhaps older still. He says here: 'though the same letters recur constantly, yet my lines and words differ in sound and meaning; just so one res differs from another, although the two have many atoms in common.'

*elementa*, 'letters.'

*versus*, 'lines' of either verse or prose.

*elementa* = the atoms of language: *elementa* are to *uerba* what *primordia* are to *res*.

*plura*, lit. 'more things': we should say 'more combinations and permutations.'

The Latin alphabet has 23 letters. Hence we may infer that there are more than 23 varieties of atoms: Lucr. nowhere says how many there are—only that their number is limited, whereas the number of each kind is unlimited.

*unde* = *ex quibus*.

*uariae res quaeque*, 'the different kinds of things.'

*The theory of Anaxagoras, that each thing is made up of particles like itself, is open to the same objections as the theories already examined: (1) he denies the existence of void; (2) he maintains the infinite divisibility of matter; (3) his particles are as frail and perishable as the things they make.

Anaxagoras, born at Clazomenae in 499 B.C., spent his manhood at Athens till he was banished for impiety in 434. He published his theory in a book of which only fragments are preserved. To the Platonic Socrates the interesting feature of the theory was, that Anaxagoras declared Mind (*voōs*) to be the universal cause (Plato *Phaedo* 97-98 B); but Lucr., as a materialist, takes no notice of this, just as he ignored the metaphysical importance of Heracleitrs.
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830. homoeomerian, lit. ‘similarity of parts,’ i.e. the theory that every res is composed of primordia possessing the qualities of the res: examples are given by Lucr. Anaxagoras, like Empedocles, taught that his particles, often called by him σπέρματα, were imperishable.

831. Graic: an Epic form, always used by Lucr. for Graeci.

832. sermonis egestas: see n. to l. 139: it is not exactly the poverty of Latin that is at fault here, but its inability to translate ὀμοιομέρεα by a single word: see n. to l. 3.

833. ipsam rem, ‘the actual theory’ as distinct from its name.

834 foll. The examples chosen are these: (1) three animal substances; (2) a metal; (3) three of the four elements.

The third class of examples misrepresents Anaxagoras, who taught that the four elements were not ὀμοιομέρη but ‘rubbish-heaps’ akin to the original chaos, as it was before Mind brought it into order.

834. principio: no deinde follows in l. 843 where the second point is stated.

835. uidelicet, ‘you must know.’

pauxillis=paruissimis.

836. hic: pronoun: i.e. Anaxagoras.

837. uisceribus: in Lucr. uiscera never means ‘entrails,’ but always ‘flesh,’ all that comes between the skin and bone: this is the regular meaning in early Latin: cf. Plaut. Mil. Cl. 30 per corium per uiscera, | perque os elephanti transmineret bracchium.

839. auri: Bentley suggested aurae here and auram below, to complete the list of the four elements: but (1) Lucr. elsewhere (e.g. l. 853) omits one element from the list; (2) mica is a suitable word for a ‘grain’ of metal but not suitable for a ‘particle’ of air.

841. ignibus ex: this position of ex is common in Lucr.: he even ends a line (ii 791) and sentence with uariis ex.

842. esse must be supplied after putat: ‘and all other things he imagines and supposes to exist in like manner.’

843, 844. Cf. ll. 742 foll.

ulla ex parte, ‘anywhere.’ in rebus=in rerum numero.

847. adde quod=thirdly.

848. si...sunt=if they deserve the name: ‘I ought not to call them by that name,’ he means: cf. l. 1057.

DLI 8
constant = sunt.
849. res, 'the things they make.'
850. refrenat: supply ea as object: for the constr., see n. to l. 721.
852. dentibus: death is compared to a devouring animal: no exact parallel is quoted.
853. sanguen: sanguis of MSS. cannot be right, because in Lucr. sanguis is a spondee.
854. ubi = quoniam.
857. neque autem crescere = et ne crescere guidem, 'and also cannot grow.'
858. The constr. is elliptical: 'I appeal to facts, <to show> that....'
859-874. A dilemma will disprove this theory of Anaxagoras in any case you choose to select: e.g. (1) the nutrition of the human body; (2) the formation of trees and plants; (3) the ignition of wood.

The dilemma may be stated thus: since our body grows from food, the particles of food must be either like the body and therefore unlike the food, or like the food and therefore different from the body: therefore either the food or the body is ἀνωμοιομέρες, i.e. composed of particles unlike itself.

The argument will be clearer, if the view of Lucr., that animals normally feed on plants, be kept in mind: think of an Irish labourer who turns potatoes into bone and muscle.

860. The l. in italics which follows is required by the sense and was supplied by Lambinus, without any intimation that he wrote it himself.

861. commixto corpore, 'of a mixed substance': but corpora parva below = particles.

dicent: the indefinite plural, which we have often had before, e.g. l. 655: it refers here to believers in ὀμοιομέρεια.
862. esse: see n. to l. 24.
863. omnino, 'to complete the list' (Munro).
864. ipse, taken with cibus (so Giussani) has much more point than if taken, as it used to be, with liquor.
865. rebus, 'substances.'
NOTES

867. praeterea = secondly.

corpora here = res, i.e. trees and plants.

869. alienigenis, i.e. not particles of earth, but miniature trees and plants.

870. transfer, ‘apply’ the reasoning ‘to other cases’: transfer = si transferes.

871. A third application of the dilemma.

872. alienigenis, i.e. not particles of wood but particles of smoke and flame.

873 is rightly rejected by Giussani: for (1) it is a mere repetition of l. 867; (2) it serves to add a fourth to the previous examples; but the next paragraph proves that Lucr. limited himself to three examples.

875–896. Anaxagoras, however, teaches that each thing contains, not only particles like itself but also particles of every other thing. But this is confuted by the evidence of our own eyes in each of the three instances; (1) animal nutrition; (2) the growth of plants; (3) the ignition of wood.

Anaxagoras wrote, ἐν παντὶ παντὸς μοῖρα ἐνεστὶ πλῆν νῆου. Mind alone was not present in matter. Thus every object in the universe is itself a kind of world in miniature. This doctrine, which Lucr. calls ‘a loophole for evasion,’ is really a cardinal point of the system, and explained the change of one substance into another, e.g. of bread into flesh and blood.

876. sibi sumit, ‘avails himself of.’

877. latitare clearly echoes latitandi above: cf. l. 337.

878. mixta, ‘in the mixture.’

879. prima in fronte, ‘on the outer surface.’

881. Note that the three examples which follow are the same as those given in the last paragraph.

conueniebat, εἰκὸς ἥν, ‘it would be natural,’ if this hypothesis were true, that corn, which men eat in the shape of bread, should give, when ground, some indication of blood or some other component of the human body; and also that grass and water, the food and drink of sheep, should give some indication of their milk. But we see (l. 893) that this is not so.

fruges: see n. to l. 808.

883. aliquid: supply eorum as antecedent of quae.
‘The things which have their nourishment in our body’ are the ossa, veneae, nervi of l. 862 foll.

884. ‘And that, when we grind it (i.e. fruges) between stone and stone, blood should flow freely.’

lapidi in lapidem, lit. ‘with stone against stone.’

Two stages of grinding seem to be distinguished, the grain being first broken and then pulverised (so Giussani). Munro keeps herbis but transposes ll. 884, 885, and believes that in 884 Lucr. is referring to the food of sheep; but this is open to the objection that all the illustrations of Lucr. are taken from actual life, and no one ever does rub blades of grass between two stones.

The lapides are therefore the upper and lower millstones: cf. Plaut. Asin. 31 num me illuc ducus ubi lapis lapidem terit? i.e. ad pistrinum.

885. herbas, which sheep eat.

decebat = conveniebat above.

886. latices, ‘water,’ which sheep drink.

Note that herbas et latices correspond exactly to cibus aridus et liquor of l. 864.

887. The constr., awkward enough, is mittere dulcis guttas et tali sapore, quali oues sunt lactis ubere, ‘should yield sweet drops, i.e. like in flavour to the udder of milk which sheep have.’

If ubera be read with Lambinus, lanigerae is gen. or dat. sing. For lanigerae = oues, see n. to l. 372.

888. The second example begins here: cf. l. 867.

889. uideri, ‘should be seen,’ governed by decebat.

890. minute, ‘in miniature.’

891. The third example begins here: cf. l. 871.

893. manifesta: cf. l. 188: Lucr. uses this word to translate ἐναργῆς of Epicurus: it means ‘certainly true, because obvious to the senses.’

894. res, ‘created things,’ with perceptible qualities, as opposed to the invisible atom with no secondary qualities.

895. semina, ‘atoms.’ Cf. ll. 814, 815.

897–920. Fire may be kindled by branches of trees rubbing together; but this does not prove the presence of fire in wood. Fire is due to a fresh distribution of the atoms composing the wood. If there were actual fire in wood, all forests would be burnt up at once.
Notes

The position and movement of atoms which are mainly identical make all the difference. Unless you admit the essential difference between res and primordia, you will reach absurd conclusions.

Lucr. now expands the last example of the preceding paragraph. 897. In magnis montibus: cf. Thuc. ii 77, 4 ἦδη γὰρ ἐν ὁραι ἐν τριφθεία ὑπ' ἀνέμων πρὸς αὐτὴν ἀπὸ ταϊτομάτου πῶρ καὶ φλόγα ἀπ' αὐτῶι αἰήκε. We know that Lucr. had studied the work of Thucydides.

900. Flammai flore: this metaphor is used in Greek and appears in the ‘Red Flower’ of the Jungle Book.

fusserunt, ‘they blaze up,’ seems to imitate the Greek aorist of final result: see n. to 1. 496.

901. Scilicet, ‘true’: cf. l. 809.

902. Semina ardoris, ‘atoms which make heat,’ though not hot themselves.

Terendo, ‘by friction’ of the boughs: for the constr. of the gerund, see n. to l. 312.

904. Facta flamma, ‘fully developed flame,’ opposed to the atoms ex quibus flamma fit.

905. Celarier: see n. to l. 207.

906. Arbusta = arbores: see n. to l. 352.

907. ‘Well, do you now perceive...?’

Ante: i.e. ll. 817 foll.

911. Inter se mutata, ‘by shifting about.’

912. Ignis et lignum, ‘fires and a fir.’ The similar sound of the two nouns suggested the addition of the favourite illustration: see n. to l. 823.

914. Cum, ‘though.’

Distincta uoce, ‘by two distinct names,’ i.e. we mean two quite different things, though the names sound alike.

915-920. A reductio ad absurdum to this effect: ‘if you say that hot things cannot be hot, unless they are formed of hot atoms, then you must say that a man, who laughs and weeps, cannot do so, unless each of his atoms can do the same.’

This playful argument, which has no special force against Anaxagoras, is stated at greater length in Book ii 973–990, where it is really relevant. It seems certain that Lucr., while writing Book ii, was struck by the thought that the same argument might
serve here, and added these six lines: indeed ll. 919, 920 would hardly be intelligible without the full explanation given in Book ii.

For similar insertions, see nn. to ll. 132, 146, 196, 205.

915. quaecumque, 'all the processes which....'

rebus apertos, 'visible things,' identical with res genitae of l. 511.

916. fieri, 'take place.'

quinque, 'without your imagining....'

918. pereunt, 'are destroyed,' i.e. cease to be primordia at all.

919-920 are almost identical with ii 976, 977.

For the purpose of argument, it would be enough to say, ridere et flere debebunt; but the detail is added, to make the conclusion more grotesque.

921-950. Listen to what remains. Dark as the subject is, I find joy in treating of matters which no poet has ever touched before. I deserve fame, because mankind will derive relief and freedom from my labours, and also because of my poetry. As a draught of bitter medicine is made palatable to children by smearing honey on the rim of the cup, so I try to make this obscure philosophy attractive by investing it with the charm of poetry.

Lucr. has now ended the polemical part of his poem (ll. 635-920); and here, before returning to the exposition of his own system, he refreshes the reader with these beautiful verses.

921. nunc age: see n. to l. 265.

quod superest, 'what remains,' is the object of the imperatives.

clairius, 'more distinctly': the word is evidently referred to by obscura below.

922. animi: see n. to l. 136.

obscura: the plur. implies that the whole system, and not merely the part of it which comes next, is abstruse.

923. thyrso = magic wand: desire of praise acts on the poet's mind as the thrysus acts on the votary of Bacchus: for the metaphorical use, cf. Ovid Trist. iv 1, 43 mota calent uiridi mea pectora thyrso (= poetic inspiration).

925. instinctus, 'inspired.'

mente uigenti, 'with eager thought.'

Lucr. draws a true portrait of himself here.

926-950 are repeated almost exactly as an exordium to Book iv.
NOTES

(l. 1–25). Lachmann argued that the original editor found Book iv without an exordium and therefore prefixed these verses from Book i. But repetition is so common in Lucr., that he may fairly be supposed, on the principle of δις καὶ τρὶς τὰ καλά, to have repeated the verses himself where they stand in Book iv.

The first lines were often imitated by Virgil and later poets: references are given by Munro.

926 foll. The claim of priority is asserted four times over; and it is true that Lucr. was a pioneer, because he expounded the Epicurean system in verse.

927. iuuat, 'I love....'

929. inde = ex eis locis.

930. There is an ellipse after this line: <I deserve this garland> because etc.

931. primum..., deinde: thus Lucr. claims credit first for the new gospel which he proclaims, and sets his claims as a poet at a lower rate: see n. to l. 54.

The et clause explains what the magnae res are, i.e. the doctrines which free the mind from superstitious fears.

932. religionum...nodis: see n. to l. 65.

933. To Lucr. his poetry is of secondary importance: it is merely a means of making the philosophic system attractive, the jam, in fact, under which the powder is concealed.

934. contingens, here and below, is a compound of tango, not of tingo or tinguo.

cuncta: a pardonable exaggeration: there are many passages in the poem which cannot be said to possess charm (lepor); but nobility of thought and purity of expression pervade it all.

935. non ab nulla ratione, 'not without good reason': ab is difficult: perhaps it is akin to the ab of l. 693.

936. medentes = mediçi: participle used as noun.

937. dare and δίδοναι are technical in this sense: from δίδοις comes our 'dose.'

conantur is expressive: to make a reluctant child swallow a dose of medicine is almost impossible.

pocula, 'the cup': the plur. is used for the sake of metre.

940 tenus always follows its case, which is either abl. sing. or gen. plur.
interea, 'in the meantime,' i.e. before they have found out the deception.

941. absinthi: gen. of absinthium.

decępquate non capiatur, 'and, though deceived, be not betrayed': another instance of assonance: cf. l. 337.

943. ratio, 'system': cf. l. 51.

944. tristior, 'somewhat bitter,' with reference to the simile.

quibus = eis a quibus: the relative is attracted into the case of the antecedent.

945. Yet Cicero (Tusc. Disp. iv 6 and 7) states that the Epicurean system was excessively popular among the uneducated over all Italy. Giussani explains this contradiction, when he says that to every philosopher his own adherents seem too few, and the adherents of rival systems too many.

946. carmine has two epithets without copula; so has melis below: see n. to l. 258.

947. musaeo, 'of poetry.'

948. ratione = pacto: the different sense of rationem above apparently gave no offence to Lucr.

949. dum, 'until,' often followed by pres. ind. in the best writers.

Some translate dum, 'while': but the verb perspicis is against this.

950. 'How the whole universe has been shaped and framed.'

compta, lit. 'taken together,' from co-emo, is near in meaning to composita.

951-957. Now that I have proved the existence of indestructible atoms moving through void, I must next discuss (1) whether these atoms are infinite in number; (2) whether this void is infinite in extent.

951. sed (or et) quoniam often serves to mark a return to the main theme after a digression: e.g. iv 26; vi 43.

952. uolitare: in fact, Lucr. has not yet explained the motion of atoms: he does this at the beginning of Book ii.

inuicta = aeterna.

953. nunc age: see n. to l. 265.

954. euoluamus, 'let me explain.'

955. Cf. l. 472.
NOTES

\[\text{\textit{seu = 'or, if you like, you may call it...'}}\]

956. \textit{funditus, 'essentially,' qualifies \textit{finitum.}}

\textit{omne} is an adj.

957. \textit{constet = sit.}

\textit{uaste profundum, 'to a bottomless depth.'}

958-1013. The universe is boundless. For (1) there is nothing outside it, to bound it; every point in it alike is centre. (2) Supposing it to be limited, if a man were to stand at the verge and throw a spear, the weapon must either go on or stop short: in the former case, there is void, in the second, there is body, beyond the supposed limit: which proves that the universe is unlimited. (3) Suppose again that it is limited: in that case all atoms would have come to rest at the lowest point, and nothing visible would exist anywhere. Atoms, in fact, are in constant motion, because there is no lower limit to the universe. Therefore space extends to infinity. (4) Outside the universe there is nothing which can bound it, as the sea bounds the land. Nor can it set bounds to itself; for its two components, body and void, are such that their alternation must extend to infinity, unless one of the two by itself so extends.

Before proving that body and void are each infinite, Lucr. first gives four proofs that both, taken together, are infinite.

The whole argument is more difficult to follow, because Lucr. uses so many names for the universe: he calls it \textit{omne quod est} (l. 958), \textit{summa} (l. 963), \textit{omne} (l. 967), \textit{omne quod est spatium} (l. 969), \textit{spatium summum totius omne} (l. 984), \textit{rerum summa} (l. 1008), \textit{omnia} (l. 1011): by each of these seven names he means exactly the same thing.

The first proof is that given by Epicurus: cf. Usener \textit{l.l.} p. 7: \textit{tò πάν} \textit{(omne)} ἀπειρὸν ἑστι. \textit{tò γάρ πεπερασμένον άκρων (extremum) ἐξελε νίκει το δὲ άκρων παρ' ἐπερήν τι θεωρεῖται. 'The universe is infinite. For what is finite has an extremity, and the extremity of anything is discerned by comparison with something else.'

958. \textit{omne quod est =tò πάν, quod est} acting as a substitute for the definite article: the gen., \textit{omnia ut est}, occurred in l. 419.

\textit{nulla regione uiarum}, 'in no direction of its paths'. Munro explains thus: 'take whichever of the roads through the universe you please, at no point in any of them will you reach its bound.'
regio is lit. 'a ruling': hence e regione, 'in accordance with a ruling,' = 'in a straight line.'

959. extremum = ἄκρον of Epicurus: the end or outside of anything limited.

debecat, 'it ought,' if it were limited.

961. quod finiat, 'something to bound it.'

ut — sequatur, 'so that that thing is seen, further than which our sense does not follow' (the thing bounded): e.g. we cease to see the ocean, as soon as we begin to see the shore: therefore the ocean is bounded by the shore.

This represents παρ' ἐτερῆς τι θεωρεται of Epicurus.

962. haec sensus natura = hic sensus.

963. nunc, 'in fact': cf. l. 110.

fatendum: sc. est.

965. rēfert: cf. l. 908.

966. usque adeo, 'so invariably.'

967. relinquit: the subject is probably quisque, not locus.

968. praeterea = secondly.

969. omne quod est spatium = omne, the universe: this is proved by l. 975.

The phrase occurred in l. 523: it denotes the whole of space, including all atoms and res formed of atoms, which are included in space. It must be remembered that in the Epicurean conception of the universe empty space predominates immensely over space occupied by body. Giussani gives this illustration: 'if we think of the volume of water in the Ocean, we think of it as continuous, without regard to the fish that live in it, though we admit, on reflexion, that in the precise point where any fish is, there is no water.'

970. telum: Bentley first pointed out that Lucr. is thinking of the ancient method of declaring war, by which the fetialis threw a spear from the Roman territory into the hostile country: the ceremony is described in Livy i 32, 12.

972. longe, 'to a distance.'

974. sumas, 'accept.'

977. prohibeat is a contracted form of prohibebeat (cf. iii 864), like debere and praebere from dehibere and praehibere.
NOTES

978. fini, 'at the mark'. locative.
   In 976 fine = a limit, in 979 it = the limit: we know already how freely Lucr. uses the same word in different senses in the same passage. (But perhaps fini is dat., 'as a limit' to its motion, locet being coordinate with probeat officiatique.)
980. sequar, 'I shall follow you,' wherever you shift to.
981. telo: instr. abl.: 'what will be done with the dart,' i.e. what will happen to it.
982. consistere, 'be fixed': a passive of constitueere.
983. effugium: an echo from l. 975: cf. l. 877.
   fugae copia, 'the room given for flight.'
984. praeterea = thirdly. The third argument for the infinity of the universe begins here.
   This argument depends upon the motion of atoms through void, which Lucr. has not yet described. According to Epicurus, all free atoms fall downwards owing to their weight; but they also have the power to swerve very slightly from the perpendicular, and this swerve brings them into collision with other atoms and makes creation of res possible. Now, suppose the universe were bounded in all directions, the existence of what may be called its roof and walls would matter less, because atoms that struck against these would rebound, owing to their weight, and collide with other atoms. But if the universe had a floor, what Lucr. calls imum, atoms which struck against it could never rise again; and in the course of infinite time all atoms would come to rest upon that floor, and no visible thing would exist in the universe.
985. undique, i.e. at the top, bottom, and sides; but it is the second of these which is shown to be of special importance.
986. iam, 'by this time.'
   materiai, 'of atoms.'
987. confluxet for confluxisset: cf. l. 233 consumpe.
988. Lucr. suddenly shifts his statement for a moment from the universe to our world: this makes it possible to add picturesque detail.
990. quippe ubi: cf. l. 182.
   cumulata, 'in one heap.'
991. subsidendo: a fine instance of sound answering to sense.
992. principiorum corporibus: yet another name for atoms.
995. res, 'processes.'

996. partibus et cunctis = undique.

inferna, 'from beneath': adj. used for adverb: of course atoms rain in from all other directions as well, but they are of less importance for the present argument.

997. ex infinito cita, 'speeding out of infinite void': but in l. 1025 ex infinito = 'from infinite time past.'

998. Lucr. now sums up the argument of ll. 984-997.

est, 'exists.' natura loci = locus.

profundi: a noun here.

999. quod = tale ut.

clera fulmina, 'a flash of lightning.'

1000. labentia = si labantur, 'even if it sped on.'

1001. 'Nor make the journey one whit the shorter by all its travel': meando is abl.

1002. copia, 'room.'

rebus, 'for things.'

1004-7 = 998-1001. The position of these lines, constantly debated by critics for many years past, has been (as I believe) finally settled by Giussani. As placed in the MSS., they interrupt the third proof; as placed by Munro (after l. 983), they merely repeat the first proof (ll. 958-964); but placed here, they serve to introduce the fourth proof, and have a real connexion with what follows.

1004. postremo = fourthly.

ante oculos: i.e. it is a matter of common experience; we can see for ourselves. This is an appeal to the senses.

1007. omne quidem vero, 'but the universe at all events,' whatever may be the case with other things: cf. ii 658.

Cf. i. 961 where the same statement was made.

1008. Admitting that there is nothing outside the universe to bound it, you may suggest that it bounds itself, by simply stopping. No, says Lucr.; that is impossible.

1009. ne possit, tenet, 'prevents it from being able': this constr. is commoner after obtinere.

1010. autem, 'also': cf. l. 857.

1011. alternis, 'by their alternation': cf. l. 524, where this statement was in part anticipated.

omnia, 'the universe.'
1012-1013. ‘Or else that one of the two components, in case the other does not bound it, stretches nevertheless to infinity by itself.’

At this point some verses have been lost, but the text of Epicurus throws light upon the lost passage. He writes (Usener l.l., p. 7) καὶ τῷ πλήθει τῶν σωμάτων ἁπειρὸν ἔστι τὸ πᾶν καὶ τῷ μεγέθει τοῦ κενοῦ. εἰ τε γὰρ ἤν τὸ κενὸν ἁπειρὸν τὰ δὲ σώματα ὑψιστά, οὔδαμον ἄν ἔμενε τὰ σώματα ἀλλ’ ἐφέρετο κατὰ τὸ ἁπειρὸν κενὸν διεσπαρμένα... εἰ τε τὸ κενὸν ἤν ὑψιστά, οὔκ ἄν εἶχε τὰ ἁπειρὰ σώματα ὅπων ἐνέστη. ‘The universe is infinite both by reason of the multitude of atoms and the extent of void. For, if void were infinite and atoms finite, the atoms would not have stayed anywhere but would have been dispersed in their course through the infinite void. Again, if void were limited, the infinite number of atoms would not have had any place wherein to be.’

The words printed in italics give the substance of what has been lost in the text of Lucr. There is a difference of order, because Lucr. took second the hypothesis of infinite space and limited atoms; whereas the hypothesis of limited space and infinite atoms, which has disappeared from the text of Lucr., comes second in Epicurus.

The existence of this lacuna, early suspected, was proved by Madvig (Opusc. Acad. pp. 254 foll.) in 1832, eighteen years before the publication of Lachmann’s edition.

1014-1051. <But this is impossible. Body and void must each be infinite. For (1) if space were limited and atoms infinite, the atoms could not be contained in space; (2) if space were infinite, and the number of atoms limited>, then our world with its inhabitants, and the gods outside our world, would instantly disappear; indeed, none of these things would ever have been formed. The formation of our world was not due to design: it is due solely to the constant movement through infinite time of an unlimited number of atoms. The preservation also of a world would be impossible, if atoms were limited in number. Fresh atoms may pour in for a time and give new life to an old world; but that renewal will not last for ever.

1014. The three main divisions of our world (see n. to l. 2) would instantly disappear. All the worlds in the universe would be affected in the same way; but Lucr. purposely limits his view: see n. to l. 988.
1015. diuum: not only our world, but the intermundia (see n. to l. 74) which the gods inhabit would dissolve. The passage implies that the gods, like all other res, are made of atoms.

1016. sistere, 'to hold together.'

1017. dispulsa, 'forced asunder.'

1018. magnum = infinite, the hypothesis being that space is infinite and atoms limited.

1019. siue adeo potius, 'or rather': either adeo or potius might be omitted without altering the meaning.

1020. cogi, 'to be brought together.' The proof ends here. What follows is an expansion of the thought contained in ll. 995–997.

1021–1025 are repeated in Book v 419 foll.

1021. consilio, 'by design.' The rejection of a Final Cause was a fundamental principle with Lucr. This l. may be a sarcastic allusion to the Mind (poëta) which Anaxagoras believed to have brought order into chaos.

1022. suo is a monosyllable: sis is used for suis iii 1025.

1023. darent, 'they should impart' to one another.

1024. mutata, 'changing their place': the atoms themselves are unchangeable: cf. l. 676.

1025. infinito, sc. tempore.

It is the infinite duration of time, combined with the infinite number of atoms, which makes it possible for a swarm of atoms to reach, by mere chance, the positions necessary for the formation of a world. But, given these two conditions, every possible combination of atoms must, sooner or later, be realised.

plagis, 'by blows' of other atoms.

1026. motus and coetus are acc. plur., omne genus being used adverbially: cf. vi 917 hoc genus in rebus (in matters of this kind).

1028. haec rerum summa: see n. to l. 235.

1029. A further point: the preservation, as well as the creation, of a world depends upon an infinite supply of atoms.

magnos...annos: probably an allusion to the magnus annus or cycle of the Stoics, who held that all events repeated themselves exactly at an interval of 18,000 years. Some echo of this is heard
in Peter Simple, where Mr Muddle believed in a similar cycle of 27,672 years.

1030. motus, of atoms in combination.

1031. The three divisions of the world, sea, earth, and sky, are particularised with some detail.

fluminis undis, 'flowing water,' flumen having its primitive sense.

1032. uapore: see n. to l. 491.

1033. summissa...floreat, 'to come up and flourish': the sense of summittere seems akin to that of l. 8.

1034. uiuaut = durent: for Lucr. expressly denies life to the heavenly bodies: cf. v 140 foll. This was a point of difference between Stoics and Epicureans.

1035-1051. Every world, while continually giving out atoms, is being pelted by atoms from outside, some of which are assimilated, while others cannot be assimilated, and rebound. Let A stand for the former kind and B for the latter. When the supply of A atoms runs short, the number of atoms in the world will decrease, and it will die (1035-1041; cf. also ii 1105 foll.). The blows of B atoms cannot save it: they can beat back the escaping atoms and keep together a part for a while, so as to give time for reinforcements of A atoms to come up (1042-1045); but they cannot strike every point at every instant; and, when they rebound, atoms in the world will follow them out and escape. There must therefore be an unfailing supply of A atoms (1046-1049). Besides, even for the partial help given by the B atoms, there must be an unfailing supply of them also (1050, 1051).

1035. facerent: the subjects are amnes, terra, and aetheris ignes.

1036. suboriri = suppeditari, 'to be supplied': cf. ii 1138 suboriri ac suppeditare: the prefix of the verbs does not appear to mean 'from beneath'; for the atoms swarm in from all sides.

1037. 'Whence they can make good their losses in each case (quaeque) before it is too late.'

amissa quaeque is acc.

1039. corpus, 'substance': cf. l. 810.

omnia = a world: in l. 1011 it stood for the universe.

1040. suppeditare: see n. to l. 547.

1041. auersa uiiae, 'turned away from its course': Virgil has the gen. after desisto, Horace after desino: all three constructions are imitations of Greek.
1042. plagae, 'blows' of atoms: the context shows, what Lucr. does not make clear, that these atoms are not assimilated.

1043. est conciliata 'has been formed by a combination of atoms.'

1044. cudere, 'to hammer on...,' governs partem.

1045. aliae, sc. plagae, i.e. impinging atoms; but these are such as can enter the world and be assimilated.

queatur: cf. iii 1010 expleri potestur: in each case the passive is due to the passive inf.: so, with a passive inf., coeptus sum and desitus sum are used by the best writers for coepi and desii.

1047. principiis rerum: these are the atoms inside the aggregate which we call a world.

1049. etiam atque etiam: cf. l. 295.

multa, sc. primordia, the acc. of principiis.

1050. plagae...ipsae, 'even the blows' of atoms which are not assimilated.

1051. uis, 'supply': the nom. after opus est is common enough.

1052-1082. Beware of the Stoic doctrine, that all things tend to a centre, and that this tendency accounts for the stability of the world, and enables the inhabitants of the antipodes to walk about upside down without falling off. The fact is, that the universe has no centre; and, if it had, things would not tend to take up a position there. Space, wherever it exists, must give way to body.

Lucr. now attacks the Stoic theory of a single finite world surrounded by infinite space, and especially their view that our world is held together by the centripetal tendency of its parts.

1052. illud in his rebus: see n. to l. 80.

1053. 'That all things press, as they say, towards the centre of the universe': 'they' are the Stoics, who held that our world remains fixed at the centre of the universe.

1054. mundi naturam = mundum.

1055. ictibus: these are the plagae of l. 1042.

quoquam, 'in any direction.'

1057. si credis = non potes credere: for the form of the sentence, cf. l. 848, iv 366 aera si credis priuatum lumine posse | indugredi: we might say 'But can you really believe, that...?'

Lucr. himself, when trying to account for the stability of the earth, is reduced to strange expedients (v 534-563).
1058. **pondera**, ‘heavy bodies,’ such as a house.  
**sunt**, for **sint**, is remarkable in **oratio obliqua**; but Munro defends it by similar examples.

**sub terris**, i.e. on the lower side of the earth.  
**sursum**: in their struggle towards the centre.  
Lucr. is ridiculing the Antipodes in whose existence he disbelieves.

1059. **retro posta**, ‘upside down.’

1060. **ut** refers only to **retro posta**: reflexions in water do not press upwards.

**nunc**, ‘actually.’

1061. **animalia**, ‘living things’: distinguished from **pondera**.

**suppa** = **supina**, ‘upside down,’ like a fly on the ceiling.

1062. **contendunt**, ‘they argue.’

**loca caeli inferiore**, ‘the part of the sky beneath them.’

1065. **illi**: nom. pl. masc.: the antipodes.

1066. **alternis**, ‘turn about.’

**tempora caeli**, ‘the seasons’ (Munro); but perhaps Giussani is right in supposing that the reference is still to day and night.

1067. **noctes—diebus**, ‘spend nights equal in length to our days’: this must be the meaning, but the omission of **nostris** is surprising.

1068–1075. In the ms., no longer extant, from which all existing mss. are derived, the top corner of a leaf was here torn off, so that the end words of these eight verses are lost. On the other side of the leaf, the beginnings of eight verses (1094–1101) were also torn off, and the copyist did not think it worth while to preserve the end words which he must have found there. This accident proves that the original ms. had 26 lines to a page.

1068. **stolidis**, ‘for fools’: see n. to l. 641.

1070. Lucr. repeats what he said in II. 965, 967.

1071. **si iam**: see n. to l. 396.

1072. **consistere**, ‘to take up a position.’

1073. **longe** goes with **repelli**.

1075. **per non medium**, ‘and through no-centre’: cf. II. 930 **ex non sensibu’ sensus**.

1076. **ponderibus**, ‘to heavy bodies,’ as indeed to all **corpus** of whatever weight.

**motus quacumque feruntur**, ‘in whatever direction their motions tend,’ i.e. whether they pass, or not, through the imaginary centre.
1077. quisquam is often used as an adj. by Lucr.; and *uli* below is used as a noun.
1078. ponderis *ui*=their weight.
1079. *antem*, 'also': so used chiefly in negative sentences.
   *subsistere*, 'to support.'
1080. *quin...pergat*, 'without proceeding,' i.e. 'but must proceed....'
   *quod*, 'as.'

1082. *cuppedine uictae* is ironical.
1083–1093. The Stoic theory is not only false but inconsistent also:
   only two of the four elements are supposed to press towards the centre;
   *the other two are said to fly from it*.
1084. *sed*, 'but only.'

Munro supposed that a verse is lost here of this kind—*et quae de*
   *supero in terram mittuntur ut imbres*; and this gives good sense.
But Giussani asks, what is the use of this distinction, and why is
   water described at such disproportionate length, and what is
   the meaning of *quasi*. He himself transposes Il. 1085, 1086, and
   translates thus—'things which are comprised, so to speak, in the
   terrestrial element,' i.e. metals, plants, animals etc.
   His view seems to gain support from Seneca *Nat. Quaest.* ii
   1, 2 *tertia pars de aquis, terris, arbustis, satis (crops) quaerit, et, ut iurisconsultorum uerbo
   utar, de omnibus quae solo continentur.*
1087. *tenuis...auras*, 'the subtle element of air.'
1088. *simul*, 'likewise.'
1089. *signis*: cf. l. 2.
1090. *pasci*: see n. to l. 231.
1092, 1093. Two puzzling lines, whose connexion with the subject
   would be clearer, if the text were complete. The upward growth of
   plants is again referred to in ii 189 *sursum nitidae fruges arbustaque
   crescunt, | pondera (=corpora), quantum in se est, cum (though)
   deorsum cuncta ferantur.*

Perhaps the Stoics explained the upward growth of trees as the
   result of internal heat: this was the explanation given by Empedocles.
1094–1101. Of the conclusion at least of the lost verses there can
   be no doubt: Lucr. must have repeated here that the number of
   atoms is infinite, or else the destruction of the world would take
   place immediately.
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1102–1113. <The number of atoms must be infinite>, or else the world would be instantly destroyed. The firmament would be dissolved, the sky and the earth disappear, and everything be resolved into atoms. The process of destruction would begin at any point where the store of atoms failed.

Lucr. here expands ll. 1017, 1018 into a magnificent picture of the world’s destruction. He held that it would in no long time be destroyed, and in the way here described.

1102. moenia mundi: see n. to l. 73.
1103. subito, ‘instantly’: cf. l. 186.
1104. cetera, ‘all other things,’ i.e. earth and sea, and all that they contain.

1105. caeli tonitrualia templae, ‘the region of the sky stored with thunder.’

The aether is the first thing to disappear; next follows the aer, or lower sky, the region of storms.

tonitrualia, the true form of the adj., the verse will not admit.

superne, ‘from above’: cf. l. 496: this word is very common in Lucr., and always means ‘above’ or ‘from above.’

Giussani takes it here as ‘upwards’ (for which Lucr. uses sursum). He says that all the movements described are centrifugal: the sky rushes up, the earth rushes down, both in the form of atomic dust. But (1) no authority before the elder Pliny is given for this meaning of superne; (2) permixtas rerum caelique ruinas of l. 1107 is against this interpretation; (3) caelum ruit, caeli ruina, are common in Latin poetry (e.g. Terence H. T. 719, Virg. Aen. i 129), and always refer to the sky falling down.

1106. omnis, ‘all of it’: fem. sing. agreeing with terra.
1107. rerum, being coupled with caeli, must mean ‘things belonging to earth.’

1108. corpora soluentes, ‘letting their atoms go free’: strictly speaking, the res, not the ruinae, do this.

abeat, ‘should pass away.’
1110. desertum = sine rebus, ‘untenanted.’

cacea, ‘invisible.’

Thus an imaginary spectator of the catastrophe would, when it was completed in one moment, see—nothing.

These two lines reach the summit of the sublime and terrible
Mr Vesey compares 2 Henry IV i 1, 159 ‘that the rude scene may end, and darkness be the burier of the dead!’

prius has the sense of *primum*: it is better, I think, to take it with *desse* than with *constitues*.

parti, ‘point.’
corpora, ‘atoms.’

*rebus* = ‘for the visible world.’

*lanua leti*: again v 373.

turba, ‘the welter,’ suggests confusion as well as number.

foras dabit, ‘will hurl itself abroad’: *dabit*, lit., ‘will place.’

Master these principles, and the rest of the system will not give you trouble. One point will throw light upon another.

This passage was first made intelligible by Munro, who saw that it was akin to ll. 402–409: the text of the MSS. has never been explained.

*haeo* refers to this first book, *cetera* to the five which follow.

si pernosces, ‘if you master,’ ‘study thoroughly.’

*paruo opella* (dim. of *opera*) = *paruo labore*.

The l. which follows was constructed by Munro on the model of l. 407.

*alid ex allo*: cf. l. 407 : this repetition is one of the chief arguments for Munro’s insertion.

*iter*: the student is compared to a traveller: as the belated traveller seeks shelter, so the student seeks full knowledge of nature’s laws.

*ultima natural = caecas latebras* of l. 408.

*res...rebus*, ‘one thing...for another.’
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