

9/9/50

REPORT
of
COMMITTEE ON THESIS

B

THE undersigned, acting as a committee of
the Graduate School, have read the accompanying
thesis submitted by Kathleen R. Noonan
for the degree of Master of Arts
They approve it as a thesis meeting the require-
ments of the Graduate School of the University of
Minnesota, and recommend that it be accepted in
partial fulfillment of the requirements for the
degree of Master of Arts.


Chairman

J. Corrin Hutchins
J. Grayson

The Scientific Terms Of Lucretius.

A THESIS

Submitted to the Faculty
of the

GRADUATE SCHOOL

of the

UNIVERSITY OF MINNESOTA

by

Kathleen Noonan

In Partial Fulfillment of

The Requirments For The Degree

of

MASTER OF ARTS

May 22, 1915

MOM
8 M 7782

Contents

Outline

	page
Introduction -	
Section I	1
Section II	4
Section III	9
Section IV	11
I - Ontology	12
II - Epistemology	26
III- Psychology	35
IV - Cosmology	40
V - Ethics	46
VI - Theology	52
VII- Formulae	58
Conclusion	62
Bibliography	I

UNIVERSITY OF
MICHIGAN
LIBRARY

140.15- 570

Outline

I. Introduction

A. Section I

Contrast in Greek and Roman character and interests, a factor in the development of the language and vocabulary of each country.

- a. Poverty of Latin in regard to scientific and philosophical language.
- b. High development of Greek phraseology in the realm of thought.

B. Section II

Lucretius's full realization of the difficulty of his task.

Motives inspiring the work:

- a. Intense enthusiasm of a missionary.
- b. Real Scientific spirit.
- c. An unknown cause for gratitude to Epicurus.

C. Section III

A comparison of the terminologies of Cicero and Lucretius.

Contrasts resulting from

1. Differences in motive.
2. Differences in temperament.
3. Differences in schools of philosophy.

D. Section IV

- a. Purpose of the paper.
- b. Plan of the work: the use of single terms, phrases, formulae and set introductions with reference to the Greek which they translate.
- c. Method employed: a classification of terms according to the different branches of philosophy.

II. Thesis. A Tabulation

- A. Chapter I. Ontology. Terms for most part from Books I and II.

- B. Chapter II. Epistemology. Terms from Book IV, for most part.
- C. Chapter III. Psychology. Terms from Book III, for most part.
- D. Chapter IV. Cosmology. Books V and VI.
- E. Chapter V. Ethics. Terms scattered throughout poem.
- F. Chapter VI. Theology.
- G. Chapter VII. Formulae.

III. Conclusion.

The "De Rerum Natura" - a successful attempt to express in pure and idiomatic Latin the philosophy of Epicurus.

- A. The use of Greek words.
- B. Latin authorities on the purity of the language used.

IV. Bibliography.

Introduction

Section I

So much has been written regarding the marked contrasts in the Greek and Roman character, pursuits and national interests that it seems superfluous to mention these differences here. Yet, in the Latin vocabulary of the age prior to that of Lucretius and Cicero we find direct evidence of the Roman tendency toward the practical and real, as contrasted with the Greek love of the intellectual and ideal. Literature speaks for the age and people and for it a language is fashioned, fitted to express the thought and ideals of that period. Before Lucretius, Rome had had an Ennius, a Plautus and a Terence. She had had historians, satirists and orators, and, as essential concomitants, vocabularies which were the peculiar properties of each of these departments of literature. The contemplative life of the

philosopher in his world of thought held no charms for the sturdy Roman of the earlier ages of his country's history, for he was a man whose nature demanded action and participation in the duties, rights, and privileges of a practical life. Thus scorning philosophy, naturally he neglected its mode of expression. In the rather cynical and slightly satirical attitude with which Cicero seems to regard all systems of philosophy, we see exemplified this idea of the complete antagonism of a life of real service to man and state and philosophical thought. Lucretius was born at a time when, owing to the gradual infusion of Greek thought and literature, the more cultured Roman had come to regard and tolerate philosophy as recreation and pastime. To this man Lucretius endeavoured to bring home this great truth: the study of philosophy's precepts can confer practical benefit. He combined in himself the most salient characteristics of two peoples; a Greek love of scientific investigation and speculation and a Latin sense of reality. With his practical end in view, he chose one of the great ethical systems of Greece and with the same degree

of fortitude, patience, and precision as rendered famous the great generals of the Roman legion, he sets about the stupendous task of embodying in a language possessed of no scientific or philosophic terminology whatever, a system of thought which was the heir of the great and comprehensive vocabularies of Plato and Aristotle. Moreover, it must not be forgotten that Epicureanism was a product of Greek thought in its decline and manifested a tendency to subtlety and wire-drawn distinctions in meaning which rendered its translation into the simple and direct Latin more difficult. Lucretius consecrated his life and all the powers of his mind to the fulfillment of a great work. George Santayana thus defines the task before this ardent disciple of Epicurus: "He was to unfold in sonorous but unwieldy Latin the truth and nature of all things as Greek subtlety has discerned them. He was to dispel superstition, to refute antagonists, to lay the sure foundations of science and wisdom, to summon mankind from its cruel passions and follies to a life of simplicity and peace"¹ "

1 George Santayana, "Three Philosophical Poets", p.34.

Section II

Many passages in the De Rerum Natura show us that Lucretius fully realized the fact that the poverty of his native tongue in the province of philosophical terminology was the great and serious obstacle in the way of attaining the end desired, namely, a clear and complete exposition of Epicurean theories, precepts and ideals. In introducing his subject matter, he says:

"Nec me animi fallit Graiorum
obscura reperta
difficile inlustrare Latinis versibus
esse
Multa novis verbis praesertim cum
sit agendum
propter egestatem linguae et
rerum novitatem."¹

Again in Book III he refers to the difficulties under which he labors:

Abstrahit invitum patrii sermonis
egestas.²

Yet his strong will and fixed purpose shows itself in the line which follows:

1. Book I 1. 135-140

2. Book III 1. 260.

Sed tamen, ut potero summam
attingere, tangam.¹

When he is forced to use the Greek term "homoeomeria"
he tells us:

Nec nostra dicere lingua
Concedit nobis patrii sermonis
egestas.²

But with undaunted spirit he adds:

Sed tamen ipsam rem
facilest exponere dictis.³

This fixed resolve to give Epicureanism to the Latin world may be traced to several motives. The first and most important is, of course, his practical aim. He is fired by the intense enthusiasm of a missionary who is striving to free a suffering humanity from the bondage of superstition:

Humana ante oculos foede cum
vita iaceret
in terris oppressa gravi sub religione
quae caput a caeli regionibus
ostendebat
horribili super aspectu mortalibus
instans.

Through the knowledge of the nature of the universe and its outward form⁵ which he taught, he endeavoured to

1 Book III, 1. 261

2. Book I, 830 - 833.

3. Book I, 833.

4. Book I, 61 - 66.

5. Book I, 148, II, 61, III, 93:
Naturae species atque.

undermine the doctrines of Latin religion because:

tantum religio potuit suadere
malorum¹.

Essential to the comprehension of this theory of creation and existence which will render man's life peaceful and tranquil and hence, happy, is the use of a clear and intelligible diction in giving expression to it.

Secondly, a truly scientific spirit and a love of philosophical investigation were forces which prompted the writing of this poem. It is true, that in the indifference which Lucretius evinces in regard to the truth of his explanations of natural phenomenon, there lies a great weakness in his scientific method. But, as contrasted with the want of order and precision in Epicurus, the thoroughness which marks the treatment of the subject matter of the *De Rerum Natura* and the spirit of devotion with which the task is performed are indications of a greater inclination toward scientific study on the part of Lucretius. The following passages bear out the truth of this statement:

1. Book I, 101.

Studio disposta fideli¹
Noctes vigilare serenas²

Even in sleep he is engaged in his favorite occupation:

Nos agere hoc autem et naturam
quaerere rerum
Semper et inventam patriis
exponere chartis.³

He acknowledges this delight and pleasure in his labor:

Iuvat integros accedere fontis
atque haurire, iuvatque novos decerpere
flores
insignemque meo capiti petere inde
coronam
unde prius nulli velarint tempora
musae.⁴

Although he continually emphasizes the fact that he is dealing with obscura carmina, in using the diminutive "opella" he reveals the charm which the work held for him:

Haec sic per nosces parva perductus
opella.⁵

Furthermore we are certain that some unknown cause for gratitude to Epicurus made him eager to spread the teachings of a Master who:

processit longe flammantia moenia
mundi
atque omne immensum peragravit
mente animoque⁶.

- | | | | | | |
|----|------------------|----|--------------|----|---------------------|
| 1. | Book I, 52. | 2. | Book I, 142 | 3. | Book IV
968-971. |
| 4. | Book I, 926-931. | 5. | Book I, 1114 | 6. | Book I,
72-75. |

There is a personal note in his outbursts of admiration¹ which convinces us that the precepts of Epicurus were instrumental in making life more endurable and happier for Lucretius. Masson adopts this explanation of the great love and awe which Epicurus inspired in his greatest disciple: "He owes Epicurus more than an intellectual debt, more too than deliverance from superstition; he seems to have brought to Lucretius exactly that which he most needed and possibly at some crisis in his personal history".²

Before leaving this topic it must be noted that at times Lucretius seems to have a more favourable opinion of his native language and of his own art, as the following lines, found twice in the poem, show:

Deinde quod obscura de re tam
 lucida pango
Carmina, musaeo contingens
 cuncta lepore³.

1. Book I 65-80, III 1-31, 1041-1045, V 1-13, VI 1-42
2. Masson "Lucretius, Epicurian and Poet", Chapter XVII, page 447.
3. Book I, 932-935; Book IV, 7 - 10.

Section III

In this great undertaking, the creation of a Latin scientific and philosophical vocabulary, Cicero and Lucretius were, we might say, collaborators. It is said of them: "They found their native language a clear and vigorous medium for the expression of the energies of a practical and objective people, they left it a fine instrument for the discussion of abstruse and speculative philosophy."¹ But, since their work lies in different fields, the results were, accordingly, very different. The distinction is based upon:

I. Motive: Lucretius believed that in order to dispel superstition he must prove all creation mortal.

Therefore he emphasized the metaphysical aspect of philosophy and formed a scientific vocabulary which was in a measure complete and adequate. Cicero, on the other hand, while he discussed the various theories of ontology and metaphysics, sets them forth simply as the doctrines proper to a certain school and rarely indicates

1. Catherine Reiley, "The Philosophical Terminology of Lucretius and Cicero." p. 1.

his own belief in the matter. In his moral essays, however, we may justly say that we are given Cicero's own theories of life or his philosophy. Since he laid such marked emphasis on normative philosophy or ethics, Cicero's contribution to philosophical diction may be said to be, for the most part, ethical.

II, Temperament: Difference in personal traits and character lead to a more dogmatic and positive use of terms in Lucretius in contrast with the innumerable "quasis" and "tamquams" which qualify the words which Cicero employs. Dissimilarity of nature also explains the selection of a system of philosophy which each man made. Ecclecticism, which of its very nature permits a more vague and indefinite phraseology than the more positive systems allow, appealed to Cicero. Lucretius, however, chose the hard and fast *Κύριαί Δόξαι* of the Epicureans and in the formation of his terminology was governed by the same spirit as prompted his selection of a system.

Section IV.

The purpose and intent of this thesis is to show with what degree of success Lucretius expressed Greek thought in Latin language. This can be most satisfactorily accomplished by a comparison of the Latin translations with Greek originals with regard to force, meaning and purity of diction. We will, therefore, consider single scientific terms, scientific and philosophical ideas expressed by a phrase or a combination of words, and lastly study the formulae and set groups of words which Lucretius employs in introducing and connecting his arguments. To simplify the task we will classify the various terms according to the main divisions of philosophy:

- I Ontology.
- II Epistemology
- III Psychology
- IV Cosmology
- V Ethics
- VI Theology.

I. Ontology

Philosophy, Epicurus defined as the art of making life happy. In as much as a knowledge of natural causes will free the mind from fear of the Gods and so contribute to human happiness, the study of nature is recognized as an essential preliminary to the inquiry into the conditions of happiness. Since the fundamental doctrine of Epicurean teaching is found in the theory of ontology maintained by the school, it is in this department of philosophy that Lucretius expended greatest effort in the creation of vocabulary. To the exposition of the nature and properties of the two sole constituents of the universe, i.e. atoms and void, he devoted Books I and II of his poem. Sellar outlines the ground covered:

"The sum of the first two books is to this effect: that all things have their origin in and are sustained by the various combinations and motions of solid elemental atoms, infinite in number, various in

form, but not infinite in variety of their forms, not perceptible to our senses and themselves devoid of sense, of colour and of all the secondary properties of matter." The importance of this matter in relation to the practical aim of the work made even more imperative the need of a clear, definite and comprehensive terminology. The following tabulation indicates how Lucretius met this demand.

Latin		Greek ¹
Nilum ²	Not-Being	Τὸ μὴ ὄν ⁸
	<u>Infinite Sum of Matter</u>	Τὸ ἀπειροῦ ⁹
Infinita vis material ³	<u>Sum of Matter</u>	
Summa material ⁴	Sum of Space	Τὸ περιέχοντι ¹⁰
Summa loci ⁵		
loci copia ⁶		
omne quod est spatium ⁷		

1. Whenever possible the Latin has been referred to a term or phrase of Epicurus. In many cases when this relation could not be traced, reference has been made to a general Greek expression without citation except in special cases.. In still other cases where the term seemed to be one natural to the Latin, no reference to the Greek has been made.

- | | |
|------------------------------------|---------------------|
| 2. Book I, 150 156, 159, 180, etc. | 6. Book V, 359 |
| 3. Book I, 1051. | 7. Book I, 523, 969 |
| 4. Book II, 527. | 8. Ep. ad Herod, 39 |
| 5. Book II, 1044 | 9. Ep. ad Herod, 73 |
| 10. Ep. ad Herod 46, 48 | |

Matter.

Materia ²	}	<u>Matter, primal substance</u>	
Materies ³			
Materiai ⁴			
copla material ⁵		store of matter	
corpora ⁶		<u>Atoms</u> <u>bodies</u>	
corpora prima ⁷		<u>first elements</u>	
semina ⁸		<u>seeds</u>	
primordia ⁹)	first beginnings	
ordia prima ¹⁰			
principiorum ¹¹			

ἡ ὑλη'

οἱ ἄτομοι¹²
τὰ σώματα¹²
τὰ πρῶτα σώματα¹²
τὰ σπέρματα¹²

οἱ ἀρχαί¹²

-
- 1 This term used by Epicureans; not found in E's own writings.
 2. Materia found 50 times, but never in nom. sing; acc. sing IV. 148.
 3. Found about 21 times in nom. and acc. only.
 4. This form used 41 times; materiae used only 3 times
 5. Book III, 193, 194; I, 1017, 1018; 1035, 1036; II, 266, 267, 294, 295, 281
 6. I, 579
 7. I, 61, 171, 510, 538
 8. I, 59, 902; III 127
 9. Not original with L., Pacuvius had used it; used here 73 times with and without rerum
 10. Used once, IV 28.
 11. Sing. principium used only I, 707. In general philosophic sense it equals ἀρχή generally used in gen. dat. or abl. plural.
 12. All general Greek terms.

elementis ¹	<u>elements</u>	στοιχεῖα
exordia ²	<u>beginnings</u>	
corpora <u>qualified</u> ³		
corpusc ⁴	<u>Minute bodies</u>	
figuris ⁵	<u>forms</u>	
particularum ⁶	<u>particles</u>	
radices ⁷	<u>roots</u>	
corporis ⁸	<u>a body(atom)</u>	

-
1. First used III 244; in all used 19 times to designate atoms.
 2. II, 333; IV, 114; III, 380; V, 677; III, 31.
 3. Corpora certa I, 521, 526 = ὠρισμένα σώματα
genitalia
corpora, I, 167; II, 548; genitalia, material
corpora, II, 62.
 4. No Greek original; II, 153, 529; IV, 199, 189;
VI, 1063.
 5. Perhaps derived from the ἰδέα and εἶδος
of Democritus; III, 190.
 6. IV, 776; III, 708; IV, 261.
 7. II, 103.
 8. Corpus = single atom, I, 600; II, 484, 487.

Inane ¹ ⁶	}	Void ^{1a}	
vacuum ²		<u>The empty</u>	ἀναφῆς φύσις ⁷
spatium ³		<u>The vacant</u>	τὸ κενόν ⁸
		<u>Void</u>	
		<u>Space</u>	
Inane ⁴		<u>place</u>	χώρα ⁹
locus ⁵		<u>room</u>	τόπος
spatium ⁶		<u>space</u>	

1. ^a Lucretius does not distinguish between void and space, consistently and hence some confusion is apparent in his application of terms.

1. ⁶ Used in all 76 times, in this sense (a) unqualified 37 times, (b) qualified, (1) inane vacansque I, 144; vacuum inane I, 439, 509, 523; inane purum I, 658. sicut inane est quod manet intactum, V, 357, etc.

2. I, 367, 393, 394; VI, 1014, 1019.

3. I, 389, 507, 1110; 529, 969, 523.

4. I, 420 = both χώρα and τόπος; cf. 954, 1018, magnum per inane; II, 122, in magno inani; II, 83, per inane; I, 1018, per inane profundum; II, 202, vacuum per inane 217, rectum per inane; II, 238, per inane quietum.

5. Locus = χώρα V, 359, 370 = χώρα and τόπος, I, 482, 505; strictly technical locus = τόπος

7 - 8, Ep. ad Pyth. 86,

9. Ep. ad Herod, 42.

10. Ep. ad Herod, 40.

Atoms - Terms Qualifying

invisible

ἀόρατον

corporibus caecia¹

eternal

aeterno²

αἰώνια

immortali natura praedita³

unchanging

immutabile⁴

ἀμετάβλητα

1. I, 338; the opposite quality which he denies atoms, he names with the words: aperto corpore, I, 297, 915;
2. I, 221, 627.
3. I, 236; its opposite, mortali cum corpore I, 755
4. I, 790.
5. Arist. met. 4, 12, 4.

Solid Singleness.

Solido ¹	<u>solid, impenetrable</u>	οστερα ¹
sine inani ²	<u>without void</u>	ἀμέτοκα κενου ¹⁰
solida simplicitate ³	<u>solidity</u>	πλήρη τὴν φύσιν ὄντα

Tangibility

tactile ⁴	<u>subject to touch</u>	ἄπτος ¹¹
----------------------	-------------------------	---------------------

Movement of atoms

tuditantia ⁵	<u>hammering</u>	τὸν παλμόν ¹²
percussus ⁶	<u>struck</u>	κινουῦνται τε συνεχῶς ¹² αἱ ἄτομοι
percita ⁷	<u>set in motion</u>	
dissultare ⁸	<u>to leap asunder</u>	τὸν ἀποπαλμόν ¹³
dissiliunt ⁹		

-
- I, 486, 488, 497, 512, etc. opposed to penetrable
I, 494; manabile, I, 534.
 - I, 510, 538.
 - I, 609, 548, 574; II, 157, cf. simplicitate, I, 612.
 - V, 151; opposed to intactile (ἀναφής) I, 437.
 - II, 1142; III, 394.
 - II, 455.
 - III, 33; V, 188.
 - III, 395, dissiliunt more common.
 - II, 106.
 - Ep. Frag. 267.
 - Used by Plato, Cf ἀναφής cited on page 16.
 - Ep. ad Herod, 43.
 - Ep. ad Herod, 44.

aeque ponderibus non aequis

	concita ferril	ἰσοταχεῖς 12
coire ²	to unite	συγκρίνειν
vias ³	paths	
clinamen ⁴	declination	ἡ παρέγκλισις
concurus ⁵	a running together	ἡ σύγκρουσις.
conexus ⁶	a joining together	
pondera ⁷	weights	τὰ βάρεια 13
plagas ⁸	blows	πληγῆν 14
motus ⁹	movement	

	Terms Related to Atoms	
cacumen	} 10	τὰ ἐλάχιστα 15
minima		εἰς μακράν 16-
intervallis ¹¹		

1. II, 239
2. I, 770; II, 563.
3. II, 726; "the paths of atomic movement", Merrill
4. II, 292; used here only by L.; equivalent to declinatio or inclinatio
5. II, 727; I, 634; V, 439.
6. II, 726; I, 634, V, 438.
7. II, 726, I, 633; V, 438.
8. II, 726; I, 633, V, 438
9. II, 727; I, 634; V, 439; cf. Arist. Phys.
10. I, 599; cf. I, 602.
11. II, 98; 12, Ep. ad Herod, 61, "of equal velocity"
13. Ep. from Simplicius (FragUsener, p.196)
14. Aetius, 1 - 126 (Usener, p.199)
15. Ep. ad Herod, 58, 59.
16. Ep. ad Herod, 43.

Arrangement.

ordine¹

ἡ τάξις

shape

hamatis²

hooked

flexis mucronibus unca³ barbed

ramosis⁴ branching

rutundis⁵ round

multigenis variata figuris⁶

ο-τρογγύλη⁷
many shaped (ἄτομα) ἀπερίληπτά
ἔσ-τι ταῖς διαφοραῖς τῶν σχημάτων⁸

1. I; 801, 827, 677, 686; II, 1021, etc.

2. II, 394, 445.

3. II, 427.

4. II, 446.

5. II, 402.

6. II, 335.

7. Ep. Usener, (page 21, note)

8. Ep. ad Herod, 42.

Condition of Being

sentire neque esse		to feel and exist ¹
constare ²		to exist
extare ³	}	to be visible
stare		to subsist
manere		to continue
vivere		to live
esse		to be

εἶναι

Creative Forces.

Venus ⁴	Venus
Natura ⁵	Nature

ἡ φύσις

1. --- III, 552, 633. ---
2. Used as equivalent to esse 38 times in poem.
3. All used as synonyms of esse
4. cf. Tennyson "Lucretius"

Rather, ye Gods

Poetlike, as the great Sicilian called
 Calliope to grace his golden verse -
 Ay and this Cyprus also -- did I take
 That popular name to shadow forth
 The all generating power and heat of nature

5. Used 73 times in the sense of creative force; I, 56, 199, 629; II, 1117; V, 1362 - rerum natura creatrix.

natura rerum ¹	<u>nature of things</u>	
gignant ²	<u>are born</u>	γίνεται ¹⁰
creatus ³	<u>created</u>	
conciliantur ⁴	<u>are united</u>	συνκρίνειν
origine prima ⁵	<u>from first origin</u>	ἀρχῆθεν
genitalis motus ⁶	<u>life giving movement</u>	
nativo ⁷	<u>subject to birth</u>	γενετός

Destruction of Res Genitae⁸

resolvere ⁹	}	ἀπωλώλει ¹¹
dissolvere		

1. Personified in III, 931, 951; used 35 times as efficient cause (I, 629); governing, I, 328; fostering, (II, 706)
2. I, 204; II, 63, etc.
3. II, 387, etc.
4. II, 901; equivalent to in concilium coeunt; used frequently of atomic union.
5. III, 331, 771; V, 678.
6. II, 228; 571.
7. II, 542; III, 417.
8. II, 63; used five times of objects made of body and void.
9. cf. III, 576; resoluto corporis omni tegmine;
Ep. ad Herod, 65; τῶ στεγάζοντος λυθέντος
10. Ep. ad Herod, 38.
11. Ep. ad Herod, 39.
12. Plato

Miscellaneous Metaphysical Terms.

natura ¹	nature	ἡ φύσις
mixtura rerum ²	a combination of things	ἡ σύνθεσις
res quaeque ³	everything	πάντα τὰ πράγματα ⁸
	<u>properties</u>	
maximitate ⁴	magnitude	μεγέθους ⁹
mutabilitate ⁵	changeableness	ἡ μεταβλητικὴ κίνησις
gravitate ⁶ }	weight	κατὰ σταθμὴν ¹⁰
ponderibus }		τὰ βαρῆα
mobilitas ⁷	movableness	ἡ ταχυτής

1. natura = substance 21 times III 137, 231, 237, 241, 270, etc.
2. natura = natural property, I, 682, 687; V, 219, 755.
3. natura = natural quality, 8 times, I, 649, II, 1072; III, 641; V, 355.
4. natura = element, I, 432, 446, etc.
5. Used once, II, 978, meaning composition of matter
6. All material objects taken severally, I, 536; II, 68; III, 34; IV, 225; a favorite expression of L.
7. II, 498; equivalent to magnitudo
8. II, 932.
9. II, 84, 190, 231; I, 359.
10. II, 65.
11. Ep. ad Herod, 39.
12. Ep. ad Herod, 54.
13. Aetius apud Usener Epicurea, 199, 18.

momen ¹	Momentum	ῥοπή ⁶
conjuncta ²	permanent essential qualities	τὰ ἀσμεβήκιστα ⁷
eventa ³	accidental qualities	τὰ συμτώματα ⁸
proprio ⁴	} peculiar to -	πρωτων ⁹
sua cuique)		
forma ⁵	shape	σχημάτων ¹⁰

1. III, 144.
2. Conjuncta are the everlasting concomitants without which body can not be thought; permanent and essential qualities, (see Merrill, note I, 450).
3. Eventa are occurrences or phenomena by which bodies manifest their action at certain times.
4. III, 134; II, 711.
5. II, 336, etc.
6. Democritus, 24, 14.
7. Ep. ad Herod 40, 71.
8. Ep. ad Herod, 40, 71.
9. Ep. ad Herod, 38; here used in sense of "fundamental".
10. Ep. ad Herod, 43.

levibus ¹	<u>smooth</u>	λεῖος ⁶
penitus ²	<u>within</u>	ἐνδοθεν
extrinsecus ³	<u>without</u>	ἐξωθεν
faciet ⁴	<u>will act on</u>	ποιεῖν ⁷
fungi ⁵	<u>to suffer</u>	παθεῖν ⁸

-
1. III, 205.
 2. I, 226, 529, 537; III 273.
 3. I, 528
 4. I, 440
 5. I, 441, III, 168.
 6. Ep. Frag. (Usener, page 216)
 7. Ep. ad Herod, 67.
 - 8.. Ep. ad Herod 67.

II. Epistemology.

Epicurean logic, or more properly speaking, epistemology, - since it consists of a system of rules or canons referring to the acquisition of knowledge and ascertainment of truth - is also subordinate to their science of ethics. Book IV, of the "De Rerum Natura", treats of images or effluxes which are the basis of sensation, of the senses in general and in particular, and briefly of the Criteria of truth. Sensation itself is always reliable, while error is to be traced, not to the senses, but to our judgment. A notion, the result of an amalgamation of sensations, in objective value cannot be superior to the sensation from which it rises. Lucretius employs the following technical terms:-

Epistemology.

Patterns of Objects or Effluxes

simulacra ¹	<u>patterns</u>	εἰδωλα ⁹
umbras ²	<u>semblances</u>	τύπους ⁹
imaginibus ³	<u>images</u>	
membranae ⁴	<u>thin surfaces</u>	
effigiae ⁵	<u>likenesses</u>	
tenues figuras ⁶	<u>subtile shapes</u>	

Sensation

sensus impellere	<u>to arouse the senses</u>	τοῦτο τὸ αἰσθητήριον κινεῖ ¹⁰
sensus titillare	<u>to tickle the senses</u>	γὰρ γαλίζει ¹⁰

-
1. I, 123; IV, 30.
 2. IV, 38.
 3. III, 430.
 4. IV, 31.
 5. IV, 42, 85, 105.
 6. IV, 42.
 7. IV, 527; I, 303
 8. II, 429.
 9. Ep. ad Herod, 46.
 10. Ep. ad Herod, 53.

tangere sensus ¹	to touch the senses	
compungere sensus ²	to sting the senses	
laccessunt ³	to stimulate	
insensilibus ⁴	without feeling	
sensile ⁵	endowed with feelings	αἰσθητός
sensus ⁶	senses and sensation	τὰ αἰσθητήρια
tactus ⁷	touch	ἅψῃ ἁπτική αἰσθησις

-
1. IV, 674, of smell.
 2. II, 432.
 3. Used of the special senses as a technical term, e.g., IV, 691 - Visumque laccessunt.
 4. II, 888.
 5. II, 887.
 6. Organs of sense; Latin could not distinguish between and (sensation itself). Scholastic philosophers invented the word sensorium.
 7. Synonymous with sensus, II, 408; cf. tangere, I, 643 (of hearing); II, 403 (of taste); IV, 674 (of smell).
 8. Ep. ad Herod 53.
 9. Plato and Aristotle. Strange to say the term does not appear to be used in the extant writings of Epicurus, but cf. ἀναφή's page 16.

Sight

visum¹

sight

Εἰς τὴν ὄψιν²

haec sensus natura³

this power of the
sense (of sight)

usurpare oculis⁴

to observe

ante oculos⁵

in promptu⁶

}
visibly

cernere⁷

to see

Hearing

sentire omnia sonare⁸

to hear

exaudiri⁹

sonitum sentire¹⁰

to perceive sound

τὸ ἀκούειν¹¹
τὴν ἀκοήν¹²

1. IV, 217.

2. Ep. ad Herod, 49.

3. Equivalent to sensus, here sensus videndi, I, 962.

4. I, 301, cf., IV, 975.

5. I, 998; II, 113; III, 185, 995.

6. I, 879; II, 149, 246; III, 106, etc.

7. IV, 229.

8. IV, 229.

9. IV, 555.

10. IV, 560.

11. Ep. ad Herod, 52.

12. Ep. ad Herod, 53

Smell

adorari¹ to smell τῆν ὄσμην⁹
 naris tangat² to arouse sense of smell
 naris lacescit³ to stimulate sense of smell

Taste

sentire suum⁴ to taste ἡ γεῦσις
 palatum }⁵ palate
 lingua } tongue
 pungunt sensum⁶ to prick the sense
 (of taste)

Touch

tactus⁷ touch ἡ ἄφή, ἡ ἄπτική αἴσθησις¹⁰
 tactile and intactile⁸ tangible and
 intangible ἡ ἄπτος
 ἀναφήσις¹¹

1. IV, 229.
2. IV, 673.
3. IV, 687.
4. IV, 615.
5. IV, 615; organs of the sense.
6. IV, 625.
7. II, 434; 233.
8. Tactile, V, 151; intactile, I, 437; cf. tangere enim et tangi, nisi corpus nulla potest res I, 304.
9. Ep. ad Herod, 53.
10. Plato.
11. Ep. ad Pyth. 86.

Nature of Images

quasi membranae vel cortex ¹	like sloughs or the bark of a tree. Τῶν κοιλωμάτων ⁹
minuta ²	fine
tenui natura ³	of subtle nature λεπτότησιν ⁹
suptili praedita filo ⁴	endowed with del- icate texture. ταῖς λεπτότησιν ² ἀνοπερβλήτοι
nulli vi ⁵	without body
textura praedita rara ⁶	of loose construction
cassa sensu ⁷	void of sense (invisible)
multis formata modis ⁸	varied in shape

-
1. IV, 51.
 2. IV, 68
 3. IV, 110
 4. IV, 88
 5. IV, 138
 6. IV, 196.
 7. IV, 138.
 8. IV, 135.
 9. Ep. ad Herod, 46.
 10. Ep. ad Herod, 47.

Origin of Images

Celer origo ¹	swift origin	ἡ γένεσις τῶν εἰδώλων ἀμυνοήματι συμβαίνει ⁷
Summo de corpore ²	from the surface of the body	ἀπὸ τῶν σωμάτων τοῦ ἐπιπυλῆς ⁸
Sua sponte gignunture ³	self-created	οὐστάσεις ἐν τῷ περιέχοντι ὄξειαι ⁹

Swiftness of Images

Celeri motu ⁴	swiftness	τάχῃ ἀνυπέρβλητα ¹⁰
Temporis in puncto ⁵	In a moment of time	
Volucra levitate ⁶	With winged quickness	

-
1. IV, 160.
 2. IV, 43.
 3. IV, 131.
 4. IV, 176.
 5. IV, 193.
 6. IV, 195.
 7. Ep. ad Herod, 48.
 8. Ep. ad Herod, 48.
 9. Ep. ad Herod, 48.
 10. Ep. ad Herod, 49.

Knowledge

Criteria

sensibus ¹	the senses	<p>Τὰ Πάθη¹⁰ Τὰς αἰσθήσεις⁸ Τὰς προλήψεις⁹ αὐτῆς ἢ αἰσθητικῆς ἐπι πάντων¹¹ ἐπιβολὰς τῆς διανοίας¹²</p>
communis sensus ²	general feeling	
animi iniectus ³	concept	
hominis vis ⁴	self consciousness	
repetentia ⁵	chain of self consciousness	
manifesta ⁶	things evident to the senses	
consciūs ipse animus ⁷	the mind, self conscious	

-
1. I, 508, cf. IV, 505, 463; I423; L. does not mention other criteria
 2. I, 422; opposed to ratio animi I, 425.
 3. II, 740; cf. iactus animi II, 1047.
 4. III, 645.
 5. III, 851.
 6. I, 855; cf. III, 353, "Manifestly true"
 7. IV, 1135; cf. mens sibi conscia, III, 1018.
 8. Ep. ad Herod, 38 - 55.
 9. Ep. ad Herod, 72.
 10. Ep. ad Herod, 55.
 11. Ep. ad Herod, 39.
 12. Vita Epicuri - Laertius X - 31, (Usener, p.371)

cognitus ¹		learned
notitiam ²	}	comprehension Τὴν πρόληψιν ⁶
notitiam ³		
notitia veri ⁴	}	to know
notitia falsi		to be in error
percipere	}	to perceive Ἐνάργεια τῆς αἰσθήσεως Ἐννοεῖω αἰσθάνομαι
occupare		
comprehendere		

1. Used of knowledge gained through the senses; I, 695.
2. II, 745, 124; IV, 476, 854; V, 124, in the meaning comprehension; it equals πρόληψις this to the Epicurean was a pre-conceived idea; cf πρόληψις and ὑπολήψεις Ep. ad Men - 124.
3. IV, 479; V, 182, 1047; "the idea"
4. Notitia veri = scire, verum = certum
Notitia falsi = nescire, falsum = dubium.
5. cf. III, 80; IV, 729; V, 605.
6. Epicurus Frag. Diog. Laert, X, 33. (Usener, p.372).

opinamur ¹	we think	προσδοξαζομένω ⁸
animi motus ²	thought	
opinatus ³	opinions	τῶν δοξῶν ⁷
sapit ⁴	has insight	λογίξασθαι
vera ratio ⁵	true philosophy	
argumenta	} ⁶ proofs	
ratio		philosophy

-
1. IV, 464, 816.
 2. IV, 1072 = cogitationes
 3. IV, 465 = opiniones
 4. III, 145
 5. "True philosophy" of Epicurus often confused by L. with fact; this word used 215 times in all
 6. Argumenta rest on facts; ratio on reasoning.
 7. Aetius, IV, 9, 5. (Ep. Frag. Usener, p.183)
 8. Ep. ad Herod, 50, 62.

III. Psychology.

In Book III Lucretius explains and discusses the nature and composition of the soul and gives his proofs of its mortality. To summarize this psychology: the human soul is composed of a finer kind of atoms, very small, smooth and round; more definitely, it is made up of atoms of air, fire, vapor, and of a fourth element which is nameless.

The soul consists of two parts, the animus and the anima, the mind and the soul; the former constitutes the rational part and is seated in the breast; the latter, the irrational part and is diffused throughout the entire body. However, from the combination of the two, one substance is formed which is intimately united with the body and incapable of independent existence. To prove that this soul is mortal, Lucretius enumerates and discusses seventeen proofs -

Psychology.

Soul

anima ¹	soul	ἡ ψυχή ⁸
animus animaque ²	mind and soul	
Parts of the Soul		
animus ³	Mind	τὸ λογικόν ⁹
animi natura ⁴	nature of mind	
mens ⁵	intellect	
consilium ⁶	understanding	
vitae regimen ⁷	guide of life	τὸ ἡγεμονικόν ¹⁰

-
1. ^ε Source of confusion in the Latin; in Greek ἡ ψυχή is divided into τὸ λογικόν⁹ and τὸ ἀλογον; but L. has to divide anima (the whole soul) into animus and anima.
 2. Used two terms to designate ψυχή, or one as including the other; cf. III, 420-425.
 3. III, 94.
 4. III, 130 = animus
 5. Mens, the thinking faculty is strictly a part of animus. cf. III, 94.
 6. III, 95, 139, 615.
 7. III, 95.
 8. Ep. ad Herod, 63.
 9. Ep. Frag. (Usener, page 217)
 10. Ep. Frag. Aetius, IV, 5, 5 page 217.

animam¹

the soul

τὸ ἄλογον⁹

small
persuptibibus
corporibus²

Soul Atoms

σῶμα ἔστι λεπτομέρες¹⁰

subtilibus
corporibus³

minutis corporibus⁴

parvis figuris⁵

smooth

levibus corporibus⁶

volubilibus figuris⁷

ἔξ ἁτομῶν
λειοτάτων

round

rutundis seminibus⁸

καὶ

στρογγυλωτάτων¹¹

1. III, 117.

2. III, 179.

3. III, 195.

4. III, 179.

5. III, 190.

6. III, 194.

7. III, 190.

8. III, 186.

9. Scholiast quoting Epicurus (Usener, page 217)

10. Ep. ad Herod - 63.

11. Epicurus, (Usener page 21, note)

Composition of the Soul

Spirit

aura	} ¹	breeze	ἔκ τοιούτου πνευματικῆς ⁷
venti caeca potestis)		unseen force of wind	

heat

vapor	} ²	warmth	ἔκ τοιούτου θερμότητος ⁷
calor		heat	ἔκ τινος θερμότητος ⁸
aer ³		<u>air</u>	ἔκ τοιούτου αἰρώδους ⁷

Nameless Substance

quarta quaedam natura ⁴	a certain fourth	ἔκ τετάρτου ⁷
omnino nominis expers ⁵	substance entirely without	τινός ⁷
mobilis illa vis ⁶	name that nimble force	ἀκατονομαστῆς ⁷

1. Aura, III, 232; ventus III, 247.
2. Vapor, III, 233; calor III 234.
3. III, 234.
4. III, 241.
5. III, 242.
6. III, 270 - 271.
7. Epicurus Frag. 315 (Usener page 218)
8. Epicurus Frag. 314 (Usener page 218)

Union of Soul and Body

communibus inter se radicibus haerent¹

they are fastened to each other by
common roots.

consorti praedita vita²

are endowed in common in partnership
of life.

mutua contagia³ mutual connections ἡ συμπάθεια
coniunctast causa salutis⁴

reason of life lies in their joint
action.

uniter apte⁵ formed into one

συμπάθης

consentire⁶ to act in unison

συμπάσχειν

-
1. III, 325.
 2. III, 332.
 3. III, 345.
 4. III, 348.
 5. III, 839.
 6. III, 153.

IV. Cosmology.

Books V and VI were written to explain the creation of the universe, the origin of life, man's progress from a state of crude, barbarism to a knowledge of law, order and arts, to the customs and usages of civilization, and finally to explain from natural causes, the phenomena of this universe.

Our world was produced not by a Divine Agency, but by a fortuitous combination of atoms, the ether, first forming the walls of the world, then sun, moon, sea, earth, and sky separating to form distinct portions of a mighty whole. Then Lucretius discusses the beginnings of animal and vegetable life and the growth and advancement of human civilization. Book VI for the most part is given over to the explanation of the phenomena which ignorance regards as the result of Divine intervention or influence.

Cosmology

The Universe of Matter and Space

omne ¹	<u>the all.</u>	τὸ πᾶν ¹⁰
omnis summa ²	<u>the entire sum of things.</u>	
summam summam totius omnem ³	<u>the totality of the whole sum of things.</u>	
summarum summa ⁴	<u>the sum of the sum of things.</u>	
omnia ⁵	<u>all things.</u>	τῶ ἀτείρω ¹¹
summam totius ⁶	<u>the whole sum</u>	
summam ⁷	<u>the sum</u>	
omne quod est ⁸	<u>all that is</u>	

Terms applied to Omne

immensum	}	⁹	<u>mighty</u>	2/ ἀτείρω ¹²
vastum			<u>immense</u>	
profundum ⁹	<u>profound</u>			

1. I, 74; II, 305; V, 527.

2. I, 621.

3. VI, 679.

4. V, 361.

5. I. 1011.

6. VI. 650.

7. I. 963, 1053.

8. I. 958

9. I. 74, II, 1095; cf. I. 957.

10. Ep. ad Herod 39, 41, etc.

11. Ep. Sententiae (Usener P, 74)

12. Ep. ad Herod, 41.

Earth.

terra ¹	earth	ἡ γῆ ¹⁴
terrae pondus ²	weight of the earth	
terrae motibus ³	earth quakes	σεισμός γῆς
terrae bonitate ⁴	benignity of the earth	
omniparentis ⁵	all productive	
tellus ⁶	earth	

Heavens

caelum ⁷	heavens	τοῦ οὐρανοῦ ¹⁵
mundi templum versatile ⁸	revolving temple of the world.	
signiferi orbis ⁹	the starry sphere	

Sun

sol ¹⁰	sun	ὁ ἥλιος ¹⁶
metas ¹¹	solstices	τροπᾶς ἡλίου ¹⁷
rota solis ¹²	sun's disk	
cursu ¹³	course of sun	τὰς κινήσεις ¹⁸

-
1. V. 92, 594.
 2. V. 495
 3. VI. 535, "earth quakes"
 4. V. 1247.
 5. II. 706; V. 259; cf. I 3 178, 251, etc.
 6. I. 7, 178, 193; II, 1556; III 26; V, 1220.
 7. V. 92, 594,
 8. V. 1436.
 9. V. 691
 10. V. 591, etc.
 11. V. 690 solstices; cf. metas. solstitiales, V, 617,
 12. V. 564.
 13. V. 689; cf. orbem, V 684.
 14. Ep. ad Pyth. (Vener, page 38, note 12)
 15. Ep. ad Pyth. 92.
 16. Ep. ad Pyth. 90
 17. Ep. ad Pyth. 93.
 18. Ep. ad Pyth. 92.

		<u>Moon.</u>
luna ¹	moon	ἡ σελήνη
defectus ²	} eclipses	ἡ ἐκλειψις ¹⁴
latebrae ³		
figuras ⁴		phases
nodus ⁵	knots	οὐνδεσμος
		<u>Stars</u>
signis ⁶	stars	τὰ ἄστρα ¹⁶
sidera palantia ⁷	the pale stars	
ignes ⁸	fires (of heavens)	
calli rationes ⁹	constellations	
		<u>Seasons</u>
annorum tempora ¹⁰		
tempestas ¹¹		<u>Weather</u>
mortalia saecula ¹²		<u>Creatures</u>
terrigenae ¹³	earth born creatures	

-
1. V. 705.
2. V. 751.
3. V. 751.
4. V. 732.
5. V. 688.
6. V 627, signs of the zodiac.
7. II, 1031
8. V 585
9. V 1183
10. V 1184
11. V 436; VI, 289, 458.
12. II, 1153.
13. V 1411, 14Ep. ad Pyth. 96.
15. Ep. ad Pyth. 94.
16. Ep. ad Pyth. 90.

Living Things

genus omne animantum 1)	} τὰ ζῶα ¹²
natura animantum 2	
animale genus 3	
animalia corpora ⁴	
genti humanae ⁵	<u>human race</u>
genus virile 6	race of man τοῦ ἀνθρώπου ¹³
saecla ferarum 7	race of wild animals ἔθνη ¹⁴
genus alituum 8	race of birds θηρῶν ¹⁴
genus herbarum 9	race of plants τὰ φῦτα ¹⁵
generatim 10	according to its class
genus servant 11	preserve its kind

-
1. I 4.
 2. I 194.
 3. I 227
 4. II 727-728
 5. V 219
 6. V 1356
 7. II 995
 8. V 801
 9. V 783
 10. II 347
 11. I 190
 12. Epicurus ad Herod, 74.
 13. Sextus (Usener Frag. 310)
 14. Empedocles 26, 4.
 15. Ep. ad Herod, 74.

V. Ethics.

The basic doctrine of Epicurean ethics is that the only unconditional Good is Pleasure. Pleasure, the master described, as the absence of pain and while he does not overlook the positive aspect of pleasure, he emphasizes the fact that this negative aspect is essential, and actual pleasure secondary and accidental. He builds up a hierarchy of pleasures placing those of the mind, knowledge and intelligence, at the top, since they free mankind from superstition and dread. Individual feeling for the Epicurean is the standard of right and wrong and Virtue has merely a relative value, good in so far as it prevents sorrow and pain. Regarding the moral teachings of Lucretius, Sellar says "He does not enforce his precepts on the systematic plan on which his physical system is discussed. His view of human life is sometimes presented as it arises in the regular course of the argument, at other times in highly finished

digressions, interspersed throughout the work with a view, apparently, of breaking its monotony."¹

1. Sellar, "Roman Poets of the Republic", Chap. XIII, p 356.

Ethics.

Highest Good

Summum Bonum ¹	Τὸ ἀγαθόν
cura semota metuque ²	far from care and fear
dolor absit ³	let sorrow be distant
privata dolore omni ⁴	deprived of all grief
tranquilla pectora ⁵	tranquil hearts
tranquilla pace ⁶	calm peace
aequo animo ⁷	in equanimity ἡ ἀταραξία ¹²
securam quietem ⁸	secure rest ἡ ἡρεμία
placidam vitam ⁹	placid life
placidam ac pacatam vitam ¹¹	calm and peaceful life.

1. VI 26.

2. II 19

3. II 18

4. II 649

5. II 1093

6. VI 78

7. III 939

8. III 939

9. V 1122

11. V 1154

12. Diog. Laert. X, 82 - Ep. ad Herod 82.

Miscellaneous Terms

iter viae ¹	way of life	τὸ κατὰ ψυχὴν
vitae rationes ²	principles of life	ὑγιᾶτον ¹²
commoda ³	conveniences	συμφέροντα
vulnera vitae ⁴	sorrows	ὁ τῆς ψυχῆς χειμῶν ¹³
result from		
avarities ⁵	avarice	
honorum cupido ⁵	ambition	
superbia ⁵	pride	
spurcitia ⁶	foulness	
petulantia ⁶	wantonness	
divitiae ⁷	riches	
curis inanibus ⁸	empty cares	
angor ⁹	anguish	
fraudem ¹⁰	deceit	
invidia ¹¹	envy	

1. V, 1124.
2. I, 105
3. IV, 1074.
4. III, 63.
5. III, 59.
6. V, 47.
7. V, 1118
8. V, 1432
9. III, 853, 993
10. II, 187; IV, 817; V, 1005.
11. III, 75; V, 1126.
12. Ep. ad Men. 122
13. Ep. ad Men. 128

opes ¹	wealth
lucunda voluptas ²	sweet pleasure ἡ ἡδονή ¹¹
result from	
pietatem ³	piety
sapientia ⁴	prudence ἡ φρόνησις ¹²
dulcia solacia ⁵ vitae	sweet solaces of life
amicitiae ⁶	friendship ἡ φιλία ¹³
utilitatis ⁷	usefulness
praemia vitae ⁸	rewards of life
delicias vitae ⁹	delights of life
pudorem ¹⁰	modesty

-
1. III, 63
 2. II, 3; IV, 1114.
 3. III, 84; reference in this virtue to parents, kinsmen and country.
 4. V, 10.
 5. V, 21.
 6. III, 83; I, 141.
 7. V, 1048; IV, 835, 854, V, 1029.
 8. III, 899 - gaudea V, 5.
 9. V, 1450.
 10. III, 83.
 11. Ep. ad Men. 138.
 12. Ep. ad Men. 132.
 13. Ep. Sententiae 27.

Death

mortis ¹	death	Τὸν θάνατον ³
vitae pausa ² }	stoppage of life	ΠΑΥΣΙΣ
finis vitae }	end of life	
interrupta repetentia ⁴	break of self-consciousness	
<u>mors qualified</u>		ο-τέρησις αἰσθησεως ⁵
certa ⁶	fixed	
aeterna ⁷ }	eternal	
immortalis ⁸ }	immortal	ἄθανατος ⁹

-
1. II, 580; III, 79, 520, 866, 875; V, 221, 1180; VI, 1098.
 2. III, 860; used five times; "a stoppage of life", (Duff); cf. III, 1078.
 3. Ep. ad Men. 124 - death, both natural and violent.
 4. III, 851.
 5. Ep. ad Men. 124.
 6. III, 1078; does not mean "fixed by fate" but inevitable.
 7. III, 1092.
 8. III, 869.
 9. cf. Ep. ad Men. 124.

VI. Theology

Religion, Epicureanism claimed, had a natural origin in fear. Ignorance, too, assisted its growth. Though he denied the agency of Providence in ruling the universe and affairs of man, Epicurus preached a sort of theology to which Lucretius gives expression in different portions of his poem. The Gods dwell in the intermundia, in the highest portions of the universe, endowed with an immortal nature and enjoying a perfect happiness with which interest in human undertakings and concerns is incompatible:-

The Gods who haunt
The lucid interspaces of world and world
Where never creeps a cloud or moves a wind
Nor ever falls the least white star of snow
Nor ever lowest roll of thunder moans
Nor ever sound of human sorrow mounts to mar
Their sacred everlasting calm.¹

1. Tennyson "Lucretius."

Theology.

Divinity

Deum¹

God

Τὸν Θεόν⁶

Divum corpora³

bodies of the Gods

Divum numen³

divine power

Divine Agency

Divinitus⁴

by divine power

Θεῶθεν

Mamibus divis⁵

by the hands of the Gods

Divine nature

Immortality

-
1. V, 1161.
 2. I, 1015; divum corpora sancta
 3. III, 18.
 4. I, 116; 150, etc. constant word in denial of divine influence.
 5. III, 52.
 6. Ep. ad Men. 123.

immortali aevo ¹	immortal ἀφθαρτων ⁶
aeternamque dabant vitam ²	{ unmoved by care or interest in human affairs
semota ab nostris rebus ³ seiunctaque longe	{ far removed and distant from our affairs
summa cum pace ⁴	in supreme peace μακροῖον ⁷
privata dolore omni	free from all sorrow
privata periculis	free from danger

-
1. II, 647; cf. immortalibus V, 165
 2. V, 1175
 3. II, 648.
 4. II, 647
 5. II, 649
 6. Ep. ad Men. 123
 7. Ep. ad Men. 123

Self-sufficient

ipsa suis pollens opibus¹
nil indiga nostri

mighty in their own
strength
needing nothing of us

Bodies of the Gods attenuate

tenuis natura deum² }
longe remota sensibus³ }

subtle nature of the gods
not perceptible to us

Dwelling place

sedes quietae⁴

quiet dwellings μετὰ ἡσυχία⁵

-
1. II, 650
 2. V, 148
 3. V, 149
 4. III, 18
 5. Ep. ad Pyth 89.

Superstition

religio ¹	superstition
formido divum ²	fear of gods ἡ δεισιδαιμονία
portenta ³	portents

True religion

pietas ⁴	piety	ἡ εὐσεβεία ⁵
---------------------	-------	-------------------------

-
1. I, 63; 101, 109, 932; III, 54; VI, 62.
 2. V, 1218.
 3. V, 37, 837, 590.
 4. V. 1198.

Nec pietas ullast velatum saepe videri

- Sed mage ^{pacta} pacta posse omnia mente tueri.
5. Epicurus wrote: περὶ εὐσεβείας

VII. Formulae.

The Latin language is not inherently philosophical and scientific and hence Lucretius found difficulty in rendering his arguments coherent. Frequently he is forced to mar the artistic beauty of his poem by the introduction of certain mechanical devices. By the use of fixed formulae as links to connect his proofs and of set phrases and sentences to introduce or round off his arguments, he gives the work a technical and formal character. The advantages resulting from the introduction of such contrivances, clearness, logical coherence, compactness, emphasis, and forcefulness, are perhaps counter balanced by the loss suffered in poetic power and artistic finish. The following tabulation includes typical illustrations of these inventions:

Formulae

illud in his rebus¹

quod contra²

at nunc³

porro⁴

huc accedit⁵

haud igitur⁶

principio⁷

quin etiam⁸

-
1. I, 80; formula used 18 times.
 2. I, 82.
 3. I, 169; equivalent to nunc vero
 4. I, 184; Gneisse maintains that L. uses porro to unite members of an argument and that as a particle of transition et is usually found at the beginning of the second member.
 5. Ut is used after accedit when the subordinate clause does not describe a fact, otherwise quod is more common; cf. I, 192, 215, 565; II, 398.
 6. I, 237, 248, 262.
 7. ante omnia, I, 271, 503; II, 589; VI, 96, etc.
 8. I, 311, "Frequently in introducing a new argument or an illustration in corroboration of a climax", Merrill.

quod superest¹
quare etiam atque etiam²
nunc age³
cetera de genere hoc⁴
sed magis⁵
hinc⁶
inde porro⁷
nil adeo⁸
plus aut minus⁹

1. I, 50, 921; III, 350, etc.

2. I, 1049, "Most positively", L. often closes his paragraph that way; cf. I, 295; II, 243, 377, 1064; III, 576, 691, etc.

3. Used 75 times in the poem; has a religious significance as it was employed in sacrificial rites; I, 265, 921; II, 730, etc.

4. III, 481, 744; IV, 462, etc.

5. III, 982.

6. III, 46.

7. V, 204

8. V, 573; VI, 1170.

9. V, 573; cf. 1240.

tamen¹
si iam²
tam demum³
cum iam⁴
denique⁵
quod ^{sequimur} sequinum⁶
magni refert⁷
scire licet⁸
quae paulo diximus ante⁹
longi sunt tamen a vera
ratione repulsa¹⁰
nonne vides¹¹
sed ne forte putes¹²
licet hinc cognoscere¹³

1. V, 1088.
2. V, 195.
3. V, 888.
4. V, 1066.
5. I, 17, 76; II, 738; III, 157; IV, 783.
6. I, 156, "our object"
7. I, 817; II, 760; IV, 984; V, 545.
8. Scilicet also used, not in its ironical sense,
but as equivalent to "plainly enough",
I, 860; III, 229.
9. I, 794, 907; IV, 383.
10. II, 645; V, 406; VI, 767.
11. II, 196; occurs II, 207, 263 and at least nine
other places.
12. II, 718, 842; IV, 129.
14. II, 143.

Conclusion.

Although Lucretius does not tell us under what conditions he will use Greek words, he makes it his very obvious purpose to employ Latin for his technical terms as exclusively as possible; we find the following Greek expressions:-

homoeomerian	I, 830	ὁμοιομερῆ
androgynum	V, 839	ἀνδρόγυνος
chimæra	V, 905	χίμαιρα
organicos	II, 912	ὀργανικός
chordis	II, 505	χορδή

Properly speaking, only the first of these may be said to be technical, the others being used merely for literary and artistic effect. In a passage in Book IV, several Greek words are employed in rendering the passage beautiful. Aer and Aether, which are excepted from this list, had, in the time of Lucretius been Latinized. Naturally it is a matter of surprise that, in dealing with a subject of so

technical a nature and with a language so rich and copious in its supply of scientific and philosophical terms, Lucretius did not take advantage of the Greek resources, but confined himself so exclusively to the Latin. In this very fact, however, we see evidence of the untiring zeal and patience of a man who wished his subject to be so expressed that it would be within the comprehension of all the Latin people.

We have many authorities who vouch for the purity of Lucretius' diction. Munro claims to be able to cite fifty. Among these Scaliger holds the *De Rerum Natura* up as a model of pure and idiomatic Latin. Lachmann extolls Lucretius because of his sermonis castitas, while Lambinus says of him, "omnium poetarum Latinorum qui hodie exstant et qui ad nostram aetatem pervenerunt, elegantissimus et purissimus, idemque gravissimus atque ornatissimus".

Ordinary translation requires certain gifts among which are scholarship, to know and fully appreciate what is in the original; secondly, a creative,

literary and artistic skill. A comparison of this poem with the dry letters of Epicurus found in Diogenes Laertius, will show how much the genius of Lucretius imparted to Epicurean philosophy. Writing of his originality, Sellar says, "It consists not in any material expansion or modification of the Epicurean doctrine, but in the new life which he has imparted to its exposition and in the poetical power with which he has applied it to reveal the secret of the life of nature and man's true position in the universe"

1. Sellar - page 301.

Scientific Terms in Lucretius.

Bibliography

Texts - Latin

T. Lucreti Cari
De Rerum Natura
Libri Sex
Edited by
William Augustus Merrill¹

T. Lucreti Cari
De Rerum Natura
Libri Sex
Edited by
H. A. J. Munro

T. Lucreti Cari
Liber Tertius
Liber Quintus
Edited by
J. D. Duff

Text - Greek

Epicurea
Hermann Usener

1. All references are made to this text.

Lexicons

Greek - English Lexicon
Liddell and Scott

Lexicon Platonicum
Astius 2 vol.

Aristotles Opera
ededit Bonitz
5 vol. Index.

Lucretius Criticisms

The Terminology of Lucretius and Cicero
Katherine C. Reiley

De Artis vocabulis quibusdam Lucretianis
Frederick Polle

Lucretius Epicurean and Poet
John Masson

Roman Poets of the Republic
W. Y. Sellar

Latin Poetry
R. Y. Tyrrell

Three Philosophical Poets:
Lucretius, Dante, Goethe
George Santayana

Greek Philosophy

History of Philosophy
Johann Edward Erdmann

Historia Philosophae Graecae
Ritter and Preller