An Exposition and Criticism of Lucretius' Theory of Sense Knowledge

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AN EXPOSITION AND CRITICISM
OF
LUCRETIUS' THEORY OF SENSE KNOWLEDGE

BY

JOSEPH M. WALSH, S. J.

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Vita Auctoris

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CHAPTER I
INTRODUCTION

In his *Orthodoxy* Chesterton makes the remark that "we may say that the most characteristic current philosophies have not only a touch of mania, but a touch of suicidal mania.* Materialism is one of the philosophies he mentioned; it is one of the modern fashions of thought which have the effect of "stopping thought itself." It is a species of insanity, if madness can be defined as Chesterton in the same work defines it: the use of mental activity so as to reach mental helplessness.

Lucretius in his *De Rerum Natura* gives abundant evidence that his philosophy is insanity, that he used reason to sound the deathknell of reason. He attempted to explain the glory of the heavens independently of an Infinite Rational Being Who alone can explain the "Nature of Things." "Such a denial," writes Sikes, "was, after all, the readiest way to explain both the problem of evil and the magnitude of the world, which no anthropomorphic god could be expected to direct. 'Who' — asks Lucretius — 'can order the infinite mass, who is able to guide and hold the mighty reins of the Universe?' To the Stoics, of course, the very size of the world was an argument for the
directing mind; and even Lucretius seems to be conscious of the
difficulty raised by his own materialism." Lucretius aimed at
relieving the people of burdensome "religio," - a word that
included all that was for him the world's evil and folly, both
the feeling of awe which he believed to be degrading, and the
organized worship of the family and State, which he no less
firmly believed to be futile. To blot out this religio the
Poet decided to teach the laws of nature because "Hunc errorem
animi tenebrasque necesse est non radii solis, neque lucida
tela diei discutiant, sed naturae species ratiique." We
wonder whether Lucretius realized the vastness of the field
which he undertook to explain.

As a necessary result of a system
of natural philosophy based on assump-
tions, largely illustrated indeed, but
not corroborated by the observation of
phenomena, with no verification of
experiment or ascertainment of special
laws, there is through the poem the
utmost hardiness of assertion and infer-
ence on many points, on which modern
science clearly proves this system to have
been as much in error as it was possible
to be. It is strange to note how inadequate
an idea Lucretius had of the vastness and
complexity of the problem which he professed
to solve.4

2 W. Warde Fowler, *Religious Experience of the Roman People*,
Macmillan Co., 1922, p. 450.
3 De Rerum Natura, Loeb Edition, Putnam's Sons, N.Y., 1924,
1, 146.
4 W. Y. Sellar, *Roman Poets of the Republic*, Oxford Press,
1932, p. 329.
The De Rerum Natura is divided into six books, of which the first two are concerned with the existence and properties of atoms. His demonstration of the existence of atoms is important chiefly in order that man may learn what is in back of the life and movement in the universe. Knowledge of the laws governing this world is to be the panacea of all the superstitious ills and fears in the heart of man.

The first principle that Lucretius puts down as nature's is that nothing is ever produced from nothing by divine power. "Nullam rem e nilo digni divinitus umquam." Taking this as a premise, he concluded that everything we experience can be explained without the working of the gods. We will not stop to give his proofs for that assertion since our subject does not require it.

When the poet has finished with the existence and properties of atoms, he takes up in the third and fourth books the nature of the soul and its activities, especially that of sensation. The last two books deal with such subjects as the origin of the world, the growth of society, and natural phenomena.

In this thesis we shall be concerned with the third and fourth books, with emphasis on the fourth. The most egregious blunders that Lucretius makes come up here, if you except his

5 De Rerum Natura, I, 150.
denial of God's creation and conservation of the world. He explains the essences of stones, marble, earth; he then makes an effort to explain a syllogistic process or an "I will" with exactly the same elements. For him this is no inconsistency. His pride forbids him to admit that this is a "world of limits" because it is a "world of facts." If a man takes for consideration the fact of sensation, he is limited by what sensation gives him. In other words after an intelligent analysis, any man who calls himself a philosopher must admit that the process of sensation is vastly different from any purely chemical process; he must in fact call it an essential difference; the two processes cannot be explained by the same elements. The same dependence on facts pertains also to a rational explanation of an intellectual process. "You may, if you like, free a tiger from his bars; but do not free him from his stripes."

In this thesis we wish to give an exposition and criticism of Lucretius' view regarding sensation. We propose to show how an external object affects, for instance, the faculty of seeing; in what way the faculty itself and the soul cooperate to bring about the reaction we call sensation. In addition we will try to show precisely the manner in which an individual judges whether or not his sensation is true.

6 Ibid., I, 146-265.
In the pages that follow many references will be made to Epicurus. What is the relation of Lucretius to Epicurus? The poet was overwhelmed with the desire to free the world of religion as it was practiced in his day. He found a favorable ally in the writings of Epicurus who, according to the poet, was the first man to defy religion and to go far towards restoring man's mind to peace by a facile explanation of the laws of nature. Lucretius deified Epicurus.

Dicendum est, deus ille fuit, deus, ... qui per artem fluctibus et tantis vitam tantisque tenebris in tam tranquillo et tam clara luce locavit.

Lucretius put many of the Epicurean tenets into poetry. At times, his work is incomplete; at times, vague. In such cases it will be necessary to have recourse to the writings of Epicurus.

Sensation in the materialistic theory of Lucretius is an atomic movement due to the touch resulting from contact between material bodies. "Tactus enim, tactus, pro divum numina sancta, corporis est sensus." That such a definition is called for is evident. Lucretius was a rank materialist and the only way matter can act upon matter is by direct contact; since sensations are had, they must be caused by some kind of contact between material bodies.

7 De Herum Natura, I, 62 ff.
8 Ibid., V, 6-12.
9 Ibid., II, 434 ff.
The implications in this definition are so vast; so far-reaching that if one undermines Lucretius' concept of sensation, he destroys the whole system of Materialistic Epicureanism. Bailey, an authority on Epicurus and Lucretius, is of the opinion that if the theory of cognition is disproved, the whole system falls. Whether philosophic systems stand or fall would probably make little difference if they were sheer theories without application to the world and especially to man. Whether this system of Lucretius stands or falls makes a tremendous difference, - and especially to man. If matter alone exists, God does not exist; if no God, no soul with immortal yearnings; if no immortal soul, why be moral?

The soul, mind, or vital principle is carefully discussed, and declared to be material, being composed, indeed, of the finest atoms, as is shown by its rapid movements, and the fact that it does not add to the weight of the body, but in no wise 'sui generis,' or differing in kind from other matter. It is united with the body as perfume with the incense, nor can they be severed without destruction to both. They are born together, grew together, and perish together. Death therefore is the end of being, and life beyond the grave is not only impossible but inconceivable.11

Lucretius the man might be dead and buried for centuries;

Lucretius the philosopher is more alive today than he ever had hopes of being when he sat down to relieve the 'common man' of religion. In its fundamental tenets modern materialism is Lucretian materialism.

Its [Lucretius'] materialism, its attribution to nature of power sufficient to carry out all her ends, its analysis of matter into ultimate physical 'individua incognissable by sense, while yet it insists that the senses are the fountains of all knowledge, are points which bring it into correspondence with hypotheses at present predominant. Its theory of the development of society from the lower to the higher without break and without divine intervention, and of the survival of the fittest in the struggle for existence, its denial of design and claim to explain everything by natural law, are also points of resemblance.12

Lucretius must be considered not only from the ethical viewpoint, but also from the epistemological. Though in our day there seems to be special emphasis on whether or not we even have knowledge of the external world, in the days of antiquity the emphasis was correctly placed on how we get our knowledge of a world the same man takes for granted.

When Lucretius has explained his theory of knowledge, he logically goes on to tell us how he knows his knowledge is true. That brings us to the question of a criterion of truth. For a scholastic philosopher any criterion but the evidence of

12 Cruttwell, History of Roman Literature, p. 224.
the object clearly manifested to the mind is either not the ultimate or else is false. Now the ultimate criterion for Lucretius is the testimony of the senses, as we would expect from one who prefers sensation to intellect. "Invenies primis ab sensibus esse creatam notitiem veri neque sensus posse refelli."

It is Lucretius' analysis of sensation and its causes we wish to set down and comment on here, with a few words on the processes of the intellect where needed. Also, since our knowledge is worthless unless we know that it is true, we will take up the criterion by which we judge, according to the poet, whether or not we have arrived at the truth.

13 De Herum Natura, IV, 478.
Chapter II
DISCUSSION OF IMAGES

With these few preliminary remarks we take up the faculty of vision. What happens when Lucretius sees a statue in the forum? He is bombarded with "idols" or images tossed from the statue. The idols — quae rerum simulacra vocamus — are films thrown from the surface of the statue and are continually flitting here and there. The atoms composing the statue are constantly in motion; this motion causes internal vibrations in the statue. All the atoms want to fly off in different directions, but the more internal atoms fail because surface atoms thrust them back. At the surface however there are no obstacles with the result that the statue constantly emits its surface atoms. When films, coming from the various surfaces (top and sides), unite, a complete film or image of the object is released; this is the "idol." We will take up its nature later.

Dice igitur rerum effigias tenuisse figuras mittier ab rebus summo de corpore rerum, quae quasi membranae vel cortex mominita est, quod speciem ac formam similem gerit e juss image ejuscumque gluet de corpore fusae vagari.

1 De Rerum Natura, IV, 23-30.
2 Ibid., IV, 42 ff.
Of course, the obvious objection to this explanation is that bodies would eventually disappear because by hypothesis the atoms tend toward the surface. If the atoms that push back the ascending atoms are themselves emitted, the latter atoms then become surface atoms and are in their turn sent off. The 'ingenious' retort of Lucretius' god, Epicurus, is that atoms from the surrounding air are constantly filling up the gap. He evidently feels that he has given a sufficient answer, for he says no more.

Besides this nothing contradicts the belief that the creation of the idols takes place as quick as thought. For the flow of atoms from the surface of bodies is continuous, yet it cannot be detected by any lessening in the size of the object because of the constant filling up of what is lost. 3

Before Lucretius goes further in his description of the images and eventually of sensation, he pauses, stepped, as it were, by the possibility that someone might ridicule his claim that the statue he saw in the forum could throw off images. Naively he adduces examples in support of his doctrine.

Principio quomiam mittunt in rebus apertis corpora res multae, partim diffusa solute, robora ceu fumum mittunt ignesque vaporem, et partim contexta magis condensaque, ut elix cum teretis ponunt tunicas aestate cicadas, et vituli cum membranas de corpore summa nascentes mittunt, et item cum lubrica serpens

Thus paving the way, the Poet proceeds to ask why thin films should not be able to cast off in the same way. There are numerous small bodies on the outer surface of things whose nature is such that they can be quickly shot off. Once emitted, their passage is swift because they cannot be easily impeded. The examples Lucretius adduces are useless not only for proving his point, but even for giving it a foundation. The reason is that there exists no parity between the examples given and the "sloughing off" of images. Wood burning might give off smoke; fire might give off heat, but smoke is no more wood than heat is fire. Yet that is what would have to happen if the parallel were true because, when we see the image, we must also see the object itself. Lucretius, seeming to doubt himself, finally attempts to 'clinch' his argument by two more equally useless examples, the mention of which is sufficient.

Convinced that 'idols' are shot off, Lucretius goes ahead to give us the nature or a description of the images. "Now listen and learn how thin the structure of this image is." Here the Poet goes to the limit in trying to give us a phantasm of the fineness of the images. He has us take the smallest creature we can see; then take the smallest part of that creature. Smaller than that are the component atoms of the

4 *De Herum Natura*, IV, 54ff.
"idols" smaller even than the fine atoms of spirits or scents. These 'idols' stream constantly from the outer surface of bodies, as we mentioned above. What they do when they contact other bodies depends on the nature of those other bodies. If they meet glass, they pass right through; if they meet wood, they are broken; if however they contact a shining surface like a mirror or silver or the like, they will shoot back at us. That is why we are able to see ourselves in mirrors. Once the images have left the body, they pick up prodigious speed since, owing to their fine texture, they rarely collide. Inasmuch as this is another step leading up to the sensation itself, it would be well to give the words of Lucretius himself on the subject.

Principio persaepe levis res atque minutas corporibus factas celebris liceat esse videre. In quo jam generis est solis lux et vapor ejus propter suae praevis facta minutis quae quasi enduntur perque aeris intervallum non dubitant transire sequenti concita plaga. Supplementum enim confestim lumine lumen et quasi proteo stimulatur fulgere fulgur. Quapropter simulacra pari ratione necessae est immemorabile per spatium transcurrire posse temporis in puncto, primum quod parvula causa sat precula tergo est quae provehat atque propellat, deinde quod usque adeo textura praedita rara mittuntur, facile ut quasvis penetrare queant res et quasi cernantem per aeris intervallum. 5

Thus it may be said with Bailey:

5 de Herum Natura, IV, 183 ff.
He (Lucretius) attributes it (incredible speed) not merely to the rarity of their texture which enables them easily to pass through opposing objects, but also to their original impulsions by a tiny cause; the force which is impelling them from within the compounded body is that of the movement of individual atoms, and as they themselves are in motion at 'absolute' speed, they can communicate to the light texture of the films a speed which is in its turn only just short of 'absolute.'

Of course, Lucretius, always keeping in mind that he is writing for the common people, again backs up his position with examples. If particles of light and heat coming from the depths of the sun can diffuse themselves far and wide in a short time, what is there to prevent images from diffusing themselves, especially since these latter are on the very surface of objects? Another example is that

... simul ac primum sub diu splendor aquae ponitur, extemplo caele stellante serena sidera respondent in aqua radiantia mundi. Namne vides igitur quam puncta tempora image aetheris ex oris in terrarum accidat oras? Quare etiam atque etiam mira fatesare necesses ... corpora quae feriant oculos visumque lacescant.


7 De Rerum Natura, IV, 211 ff.
CHAPTER III

ACT OF VISUAL SENSATION

In the second chapter we gave a description of the images or 'idols' which cause sensation. In the present chapter we will analyze the act of sensation itself. For most of the matter of this part we must consult Epicurus himself, since Lucretius follows Epicurus strictly. Consequently in giving the mind of the latter we are stating the dogma of Lucretius.

The tenth book of Diogenes Laertius with its excerpts and letters of Epicurus, the criticisms moreover of Cicero, Seneca, Plutarch, Lucian, and others, with the fragments of Epicurus's own and of Epicurean works deciphered among the papyri rescued at Herculaneum in the eighteenth century, leaves no doubt as to the accuracy of the Lucretian exposition. 1

Sensation, is too fundamental, too primitive a state to be defined. We can describe it as an elementary psychic state aroused in the animated organism by some exciting cause. The psychic state is very probably caused somewhat as follows. Some action of the physical world, external to the organism, is transmitted in some form of motion to the sense-organ. The

1 Sellar, Roman Poets of the Republic, p. 329.
transmission causes in the substance of the nerves a disturbance which is sent to the brain. The soul reacts to the disturbance. Thus the soul and body, working as co-causes, produce the experience we call sensation.

To know an object we must be united with it in some way. The union that is effected in cognition is an "intentional" union. That is, the form of the object is represented in the soul. Called by the Scholastics "species," it is a modification or disposition awakened in the mind by the action of the object. The representation is not a physical image streaming from the object and passing into the soul through the channels of the sense organs as Lucretius says. The "species" is a representative quality of the object which, coming from the object, helps the faculty to elicit cognition of the given thing by reducing the faculty from "potency" to "act." In the language of St. Thomas the form of the object, not the matter and form together, is united with the knowing subject; consequently there is no "entitative" union as in the case of the body and soul. "Omnis autem cognitio fit per hoc quod cognitum est aliquo modo in cognoscente, scilicet, secundum similitudinem. And again, "Non enim visio fit in actu nisi per hoc quod res visa quodammodo est in vidente. Et in rebus quidem corporalibus appareat quod res visa non potest esse in vidente per suam essentiam, sed

3 St. Thomas, Opera Omnia, XVII, opus. xlv.
Solum per suam similitudinem." Suárez tells us the same thing: "Unius objecti cognoscibilis cum potentia necessaria est in omni cognitione. Est fere communis omnium theologorum et philosophorum, qui in potentis cognoscitivis ponunt similitudes quasdam objectorum, ut per illas objecta uniantur potentia, easque vocant species intentionales. 5

From what has been said and, of course, from experience, we can readily see that there is no question of a physical union between the percipient and object perceived.

How, according to the poet, do material images cause the sensation of vision? When Lucretius turns towards a statue in the forum, his eyes are at once bombarded by the 'simulacra' streaming from the object. A succession of idols beat upon the eye. As soon as this happens, the atoms composing the soul are contacted, and the 'fourth nature' is set in motion, having its effect on the other three elements in the soul. (We will take up the fourth nature below.) All the moving soul atoms, because they are in motion, are able to react on the atoms of the body; when this happens, the eye sees. Here we must recall that single images cannot be seen, but only a succession of images. This succession, called 'phantasia,' is so quick that the mind is not conscious of any break between images. "Nec singillatim possunt secreta videri." It is

4 St. Thomas, Is, q. 12, a2.
6 De Rerum Natura, IV, 189.
obvious that the phantasia must retain the corresponding
sequence of qualities and movements from the original object.
Here are Epicurus' own words:

Now we must suppose too that it
is when something enters us from external
objects that we not only see but think
of their shapes. For external objects
could not make an us an impression of
the nature of their own color and shape by
means of the air that lies between us
and them, nor again by means of the rays
or effluences of any sort which pass
from us to them - nearly so well as if
models, similar in color and shape,
leave the objects and enter according
to their respective size either into
our sight or into our minds; moving
along swiftly and so by this means
reproducing the image of a single
continuous thing and preserving the
corresponding sequence of qualities
and movements from the original object
as the result of their uniform contact
with us, kept up by the uniform vibra-
tions of the atoms deep in the interior
of the concrete body.

This verbosity of assumption is recognized by Hasso:

A German critic writes: 'To me it
appears not unfrequently as if Lucretius
were not himself so well satisfied with
his 'demonstration,' as if sometimes in
the quietest corner of his heart a feeling
had waked up which compelled him to
escape from the difficulty by renewed
asseverations and the most vigorous
piling up of 'erga' and 'propterca' and
'cum' and 'quod' and 'quapropter,' and
all the other available conjunctions of
inference. What in all the world compels
all objects to send forth all these images?

Did the Epicurean believe that this property was immanent in things and inseparable from them? Such ceaseless emissions could not fail to produce some change in the exterior, and perhaps also in the interior, of things.8

Above we said that sensation was caused by a disturbance in the soul-atoms which flowed over into the body. For a clearer understanding of Lucretius' theory of sensation, we must analyze the soul. Anything that might seem to have had the slightest probability in this whole system loses its probability when one discovers the 'true' nature of the soul. Here Epicurus and Lucretius push their fundamental assumptions to the breaking point, and the farther they push the more apparent become the insuperable difficulties. The difficulties in their psychological theories are consequences of the naive statement that "...ratiocinaturam animi atque animae corpoream docet esse." In Lucretius' statement on the nature of the soul we can read the puzzle that has annoyed and still does annoy philosophers. In modern times much prominence has been given it, since the time when Descartes, unable to understand Hylemorphism, wrenched the body from the soul. That enigma is how can spirit and matter interact, how are body and soul united. The preferred responses of many modern philosophers are all superficial despite the fact that philosophy is

9 De Rerum Natura, III, 161.
supposed to investigate ultimate causes. Their solutions come down to this, that body and soul are not substantially united, but either one is real and the other is a mere phenomenon, or else they unite only their powers or forces.

Now Lucretius takes a few evident facts. Our bodies are moved; our facial expressions change; the thrust of a dagger makes itself felt even in the soul. Therefore, implicitly says Lucretius, the body and soul really do interact; to use modern terminology, neither is a mere phenomenon or appearance. What follows? Since interaction is caused only by touch and since touch implies body, we must conclude that the soul is corporeal.

Haec eadem ratio naturam animi atque animae corpoream docet esse; ubi enim propellere membra, corripere ex somno corpus mutareque vultum atque hominem totum regere ac versare videtur, quorum nil fieri sine tactu posse videmus nec tactum porro sine corpore, nonne fatendumst corporea natura animum constare animamque? praetera pariter fungi cum corpore et una consentire animum nobis in corpore cernis. Si minus offendit vitam vis horrida tei ossibus ac nervis discisis imitus adacta, at tamen insequitur languor terraeque petitus suppus, et in terra mentis qui gignitur aestus, interdumque quasi exurgendi incerta voluntas. ergo corpoream naturam animi esse necesset, corporeis quoniam telis ictuque laborat.10

This paradox is easily explained if one keeps in mind the fundamental tenets of this theory; the one in question here

10 De Rerum Natura, III, 161-176.
is that the whole universe is made up of two elements, atoms and the void; consequently everything, the soul included, must be corporeal. The soul cannot be a spirit because it could then neither act nor be acted upon. If this contention were correct, morality and the whole supernatural world that is consistent with our concept of morality would be non-entities. If one in true, not pseudo-philosophic fashion reflects on his intellectual acts, he will find necessarily that some of them have for their objects immaterial, inextended, abstract things. Among such are the ideas of 'triangle,' and of 'virtue.' Unless one cares to deny the principle of contradiction, he must admit the spiritual or immaterial nature of the faculty which forms the ideas. If he does not admit that fact, he is saying that a material faculty is capable of producing something which is immaterial. In the same way the soul is proved to be immaterial. A faculty of its nature is a faculty of something; it is an ability to do something. If the faculty is spiritual - and we have proved that it is - then the 'thing' of which it is a faculty must be spiritual for the same reason that if the idea is spiritual ontologically, the faculty must be. Nemo dat quod non habet. The whole process can be reduced to the scholastic axiom: agere sequitur esse.

Lucretius however is not averse to contradictions; he can hold the corporeal make-up of the soul. Indeed, logical
consistency of view would be out of place in a poem; and
Lucretius is no where a truer poet than when he sings against
his own canons.* The soul is exceedingly delicate and made
of very fine particles. The poet's reason for this statement
is based on the quick action of the mind. The mind bestirs
itself more quickly than any other thing which nature puts
before our eyes.

At quod mobile tanta sperest,
constare rutundis perquam seminibus
debet perquamque minutis, memine uti
parvo possint impulsa moveri.13

As usual the poet brings forth examples to confirm his stand.
This time he employs the obvious difference there is between
water and honey. Why does water flow so readily and why does
honey 'ooze' out? The reason is that water is made of small
rolling shapes, while the mass of the ingredients of honey
cohere because the honey is not composed of bodies so smooth
or so delicate and round. Another example is this, that the
slightest breath can scatter poppy-seed, but the same breath
would not cause a movement as far as ears of corn are concerned.
The reason is that the one is made up of fine atoms, the other
is not. The most famous example that Lucretius gives is that
of the corpse. He reasons thus:

11 Cruttwell, History of Roman Literature, p. 225.
12 De Rerum Natura, III, 179-180.
13 Ibid., III, 184-85.
Simul atque hominem leti secura
quies est indepta atque animi natura
animaeque recessit, nil ibi libatum de
toto corpore cernas ad speciem, nil
ad pondus...quoniam fugiens nil
ponderis aufert.14

So much for the constitution of the soul in general.

What is to be said about the internal constitution of the soul?

We know that very fine particles make up the soul, but they are
not all of the same kind. The soul is a composite, its compo-

ten parts being breath, heat, air and a fourth "nameless
substance."

Nec tamen haec simplex nobis natura
putanda est. Tenuis enim quaedam moribundos
deserit aura mixta vapore, vapor perre
trahit aera secum. Nec calor est quisquam,
eui non sit mixtua et aer; rara quod ejus
enim constat natura, necessae est aeras
inter eum primordia multa moveri.15

It is here that Lucretius shows a spark of intelligence,
but only a spark; it quickly flickers out. He realizes that
the three elements mentioned - however subtle they be - cannot
account for sensation and, a fortiori, for thought.

Nec tamen haec sunt sat ad sensum
cuneta craendum, nil horum quoniam
receptit mens posse creare sensiferos
motus nesum quae mente volitat.16

He accordingly finds it necessary to postulate a fourth element
which is "without a name." Nothing exists more easily moved
and more thin than this; nor is anything made of elements

14 Ibid., 211 ff.
15 Ibid., III, 231 ff
16 Ibid., III, 233.
smaller and smoother.

Quarta quoque his igitur quaedam
natura ncesse est attribuatur; eas
omino nominis expers; qua neque
mobilius quicquam neque tenuius
exstat, nec magis e parvis et
levibus est elementis.17

"No doubt," writes Masson, "he thought by making matter as fine
as possible to solve the difficulty of mind and matter, of the
origin of sensation,—the side on which materialism is as weak
today as it was two thousand years ago." It is this nameless
element which first distributes the sense giving motions through
the limbs. He adds that if pain penetrates to this element,
the result will probably be fatal to the body. These four
elements form one whole so that no single one can be removed,
nor can a single one act automatically, divided from the rest.

Inter enim cursant primordia
principiorum motibus inter se, nil
ut ascenderit unum possit nec spatia
ci divisa potestas, sed quasi
multae vis unius corporis extant.19

Lucretius' inability to explain just how these elements inter-
mingle and act he attributes to the poverty of the Latin
language. The fourth element is hidden deep down in the body
and passes its motion on to the rest. "penitus prorsum latet
haec natura subestque nec magis hac infra quicquam est in

17 Ibid., III, 241 ff.
18 Masson, Lucretius: Epicurean and Poet, p. 213.
19 De Rerum Natura, III, 258 ff.
in corpore mostre atque anima est animae proporro totius ipsa."

It is the spirit of spirit; it is to the other three elements what the soul is to the body; it is the dominator. Is this nameless element a subterfuge? Perhaps it is a confession that in man there is more than matter alone.

The soul is composed of four elements of which three are like those of wind (aura, ventus,) heat (vapor, calor) and air or mist (aer); but as these are not enough to cause sensation, there must be a fourth essence, of the finest possible atoms, which the Greek Epicureans called "nameless;" to Lucretius it is the "quarta Natura." This quartessance was obviously a make-shift to account for the mystery that a body, in itself non-sentient, can have sensation. No doubt the makeshift satisfied the Epicureans; at all events they did not regard the quartessance as super-material — it is as material as the other elements of the soul. It is nameless because it is unique, and cannot be compared with any other substance.21

Bailey expresses the difficulty another way:

"Here if anywhere a difficulty will be found in the materialistic account. The fourth nature is, as has been seen, an aggregate of exceedingly fine and smooth atoms; the individual atoms have not of course themselves sensation, either apart or when combined in the aggregate, but the compound which they form has sensation. How can this come to pass?"22

There is no denying that ultimately it comes to pass by touch or

20 Ibid., III, 273, ff.
21 Silkes, Lucretius, p. 105.
22 Bailey, Greek Atomists and Epicurus, p. 393.
Tactus enim, tactus, pro divum e numina sancta, corporis est sensus, vel cum res exteraesse insinuat, vel cum laedit quae in corpore natast... aut ex offensu cum turbant corpore in ipso semina confunduntque inter se concita sensum. 23

What does Lucretius mean? We look back at the fundamental concept of materialism, touch. Since the only possible relationship between two things, in materialism, is contact of bodies, sensation evidently must be reduced to contact. Therefore, all sensation in its physical analysis is an atomic movement due to the touch resulting from the contact of material bodies. It is quite clear from this that if we have knowledge of the ontological order, we must physically come into contact with that order in some way. Now, regarding the sense of sight, - the one with which we are mainly concerned now - contact is gotten by the images which come from objects. Their impingement upon the eye causes indirect contact between the percipient and the object perceived. This contact arouses the atoms of the sense of sight, which in their turn arouse the soul atoms. In the soul, the atoms of the "fourth nature" are moved first because they are so intensely mobile and adaptable; their motion they communicate to the other soul-atoms; finally, the movement goes throughout the body and we have sensation.

23 De Rerum Natura, II, 434.
Sensiferas motus quae (natura quarta) didit prima per artus. Prima enim cietur, parvia perfecta figuris; inde calor motus et venti caeca potestas accipit, inde aer; inde omnia mobilitantur, concutitur sanguis, tum viscera per sensitiscunt omnia, postremis datur ossibus atque medullis sive voluptas est sive contrarius ardom.
CHAPTER IV
ACT OF VISUAL SENSATION (continued)

In preceding chapters we gave an exposition of the origin of sensation; images "sloughed off" from objects cause this phenomenon. The images effect motion in the soul atoms. The motion in the soul-atoms communicates itself to the whole body; sensation is the result. In this chapter we will take up some problems presented by Lucretius and by almost every philosophy text-book since. We consider the problems not because they are per se interesting but because they lead us to another cardinal point in Lucretius' theory, namely, the criterion of truth.

Why do bright lights burn our eyes? Why is it possible to see if one looks from darkness into light, but not vice versa? Why does a square tower seem round at a distance? Why does the sky seem to be contained in a puddle of water? Finally, the age-old problem: Why does an oar seem broken when resting in water?

Difficulties like the first two mentioned are not of so much concern to Lucretius in the sense that in these we just want an answer for what seem to be facts. The fact that bright lights burn the eyes is put aside by the terse response that
glaring objects contain seeds of fire which cause pain when they enter the eye. "Splendor quicumque est acer adurit oculos quod semina possidet ignis multa, dolorem oculis quae gignunt insinuando." If the bright object is the sun, then the reason for the burning of the eye if we attempt to look up at the sun is that

...sol caecat, contra si tendere pergas, quia vis magna est ipsius et alte aera per purum graviter simulacra feruntur et feriunt oculos turbantia composituras. 2

From darkness we can see things in the light because the light sweeps in and clears the gloomy black air from the eyes, scattering it. When this happens, the idols from the objects situated in the light follow right along the path prepared, as it were, for them. We cannot see objects in the dark because the air of the gloomy light fills all the channels and eye passages, preventing the idols from coming in.

E tenebris autem quae sunt in luce tuemur quia cum proprior caliginis aer ater init oculos prior et possedit apertos, insequitur candens confestim lucidus aer qui quasi purgat eos ac nigras discutit umbras aeris illius. ...Quod contra facere in tenebris e luce nequimus quia posterior caliginis aer erassior insegitur qui cumeta foramina complet obsiditque vias oculorum, ne simulacra possint ullarum rerum conjecta movere. 3

1 De Rerum Natura, IV, 324ff.
2 Ibid., IV, 324.
3 Ibid., IV, 337.
With difficulties like the others mentioned Lucretius is more concerned. Why? Because if we can prove a single sensation false, why should we not doubt all sensation? If Lucretius lets man doubt sensation, the whole system of materialistic sensism falls. "Invenies primis ab sensibus esse creatam notitiam veri neque sensum posse refelli."

Lucretius has more difficulty in trying to explain just why a square tower looks round from a distance and precisely why an oar in water seems broken. These difficulties the poet tosses aside on the score that "Nec hic oculos falli concedimus hilum...animi vitium hae oculis adstringere meli." However the difficulty still stands.

Bailey analyzes the cases mentioned in this way:

In the case of the distant tower and the oar seen through the water, it is by no means so easy to say that the error lay in the 'addition of opinion.' The mental faculty of opinion will be considered in its place. The first sensations were of a round object and of a bent object; the near views showed the realities were square and straight respectively.

Then stating that Epicurus never explicitly deals with the difficulty - wisely perhaps - Bailey shows us from references what the philosopher probably would have said. The sensation of a distant tower as round when in reality the object was

4 Ibid., IV, 478.
5 Ibid., IV, 379 ff.
6 Bailey, Greek Atomists and Epicurus, p 255 ff.
square and the perception of the oar as bent when in reality it was straight are true because the one truly tells us what a distant tower looks like and the other tells us what an oar in water looks like. Bailey admits that this is a poor way of saving a losing cause. A sensation even according to the man-in-the-street, and it was he whom Epicurus and Lucretius wished to influence, is true if it truly represents the object as it is, undistorted. Some of the philosopher's followers, for example a certain Colotes, tried to answer the difficulty by saying that on the long journey to the eye, the idols might have been altered, their edges broken, and so forth. Obviously such an explanation is fatal to a system whose foundation is sensation.

As we saw above, Lucretius assures us that not the senses but the mind deceives us. The question now arises: how can we tell when we are deceived? In other words what criterion shall we go by, what is the norm of truth? In general a criterion is a measure or rule or norm according to which we discern one thing from another; a criterion of truth is something, some sign by which we judge truth from falsity. For a Scholastic the universal criterion of truth, the ultimate motive we have for our certitude about a given object is the objective evidence of the thing to be known. It is the intelligibility of the object clearly manifested to the mind. For Lucretius the criterion or norm of truth is to be found in the senses.
"Invenies primis ab sensibus esse creatam notitiam veri et aequae sensus posse refelli." This fundamental principle Epicurus thought so highly of that he would not argue about it. Therefore, the mind deceives us, but how?

To answer this question we must investigate the operation of the mind. Here two we must have recourse to Epicurus for a fuller understanding of the subject. In line 744 of Book II, Lucretius, considering the power of the mind to conceive atoms even though they have no colors, makes the statement that for our minds bodies painted with no tint may become a clear concept. This one sentence implies a few technical notions of Epicureanism.

The mind had ready in itself general notions or concepts of classes of things, to which it could refer when any new instance of the class occurred; thus we know, for example, that 'this is a horse' because we have the general idea of 'horse' to which we refer...These general concepts were formed in the case of perceptible objects by the storing up in the mind of a series of single impressions, which formed a sort of 'composite photograph.' But in the case of imperceptible things, such as the atoms, he probably conceived of their being formed by a combination of existing concepts by a 'projection of the mind.' So here, by combining the concept of an atom with that of touch without sight, we get the clear concept of a colorless atom.

8 De Herum Natura, IV, 478.
"The mind has ready in itself general notions... to which it could refer when any new instance of the class occurred."

As has been remarked, the soul particles near the sense organs are stirred, aroused by the act of perception in the sense organs. These surface soul particles in turn communicate their motion to the other soul particles. This goes on until the movement reaches the mind where it forms a representation of the sense-image. The mind image itself does not immediately perish, but remains stored away, capable of subsequent recall. Now the more perceptions we have of objects of the same class, the more sense-images we are storing up; this is how we get the composite photograph of the class. The dissimilarities have disappeared and the similarities stand in relief, resulting in a general concept. This general notion, concept, composite photograph is technically called πρόβληψις, translated "anticipation."

It is that which we have permanently in our mind to enable us to anticipate the general appearance of anything for which we are looking or wish to create, and to identify and distinguish the individual images of sense-perception when they are presented to us.10

In this explanation of "anticipations" we have another example of the affinity between Lucretian materialism and

10 Bailey, Greek Atomists and Epicurus, p. 245. Bailey says that this explanation is generally adopted by modern writers on Epicurus and Lucretius even though it is not found in any Epicurean source.
modern materialism. The anticipations or preconceptions are nothing more than what our Nominalists call generic, common, or typical phantasms. Modern Materialists, denying the ability of man to form universal ideas, substitute for this fact of experience a fluctuating, often fragmentary, and always determined phantasm. We look at objects as though looking through a fog.

What is in the mind is a kind of composite image formed by the fusion or coalescence of many images of a single objects, in which individual differences are blurred, and only the common features stand out prominently...This may be called a typical or generic image...As generic, it differs in an important way from the detailed particular image; as an image, it meets the contention of the Nominalist that all ideation is at bottom imagination.  

That is a general idea of how man forms his "universals," things that are really common phantasms. The general concept thus formed is an "anticipation." Above we showed that the first criterion of truth is the senses; "it is from the senses that the concept of truth has come." The second criterion is found in the anticipations. To know whether the object standing at a distance is a horse or cow we must first have an anticipation or preconception of the shape of the creature. "Otherwise we could not have named them, unless we previously

knew their appearance by means of an anticipation. So the
12 anticipations are clear and immediate evidence.* We are not
left with a series of detached unmeaning sensation; because
of the preconceptions we are able to correlate, identify and
distinguish sensations.

They owe their validity to the fact
that, although they are not themselves
directly sensations, they are immediately
built up of sensations; our 'anticipation'
of horse is simply the aggregate...of a
number of individual sensations of horses.13
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There is yet another criterion of truth. This crite-
15 rion of truth is still necessarily on the sense-level; it is
feeling. From our common understanding of the word feeling, we
know that it is sensation. Why then is it a separate criteri-
on? In Epicurean philosophy it is used to describe the inev-
itable accompaniment of sensation, that is, the feeling of the
agreeable or disagreeable. "...in all cases our sensations
not merely inform us of the presence of something external,
but they bring with them the feeling or sense of pleasure or
pain." This criterion does not have to be validated because
it is immediate and therefore certain. The important role
this criterion plays is evident when we discover that feeling
is not concerned with the existence of things or their physical

12 Diogenes Laertius, Epicurus, X, 33, Leeb edit., II,
Putnam's Sons, 1925.
13 Bailey, Greek Atomists and Epicurus, p. 245.
14 Laertius, Epicurus, X, 31.
15 Bailey, Greek Atomists and Epicurus, p 249.
nature, but with morality. Feeling, not "orde finalis," is the
norm of morality taken up by Moral Sensists and Empiricists.
We can now see the close relationship between Epicurus' and
Lucretius' theory of cognition and their ethics. "Nature cries
aloud for nothing else but that pain may be kept from the body,
and that withdrawn from care and fear the mind may also enjoy
the sense of pleasure." Here incidentally we have the motiva-
ting force with which Epicurus and Lucretius worked on the
plebeian. Fear of death and a future life were the nightmare
of that abstraction and worked-to-death "common man." The
philosophers attacked it this way.

Become accustomed to the belief that
depression of sensation. And therefore
depression of sensation. And therefore
right understanding that death is nothing
to us makes the mortality of life enjoyable,
not because it adds to an infinite span of
time, but because it takes away the craving
for immortality.16

Closely connected with the consideration of a criterion
of truth is the consideration of the fact or error. If there
can be no error in sensation, whence does it come? The mind
has the power to retain the data of external experience or the
data of the external senses so that eventually there results a
generic image which later could be used for purposes of compar-
isom. To do this the mind must interpret the sensation.

16 Epicurus, Letter to T. Menoeceus, #124.
17 Diogenes Laertius, Epicurus, I, 33.
The act of interpretation is called "apprehension." (In all this we must remember that we are on the ground of materialism. The only reason that the soul can compare and the like is to be found in the ultra-fine structure of the atoms; despite their ultra-fine structure they are still atoms.) But there is another movement closely related to the movements of apprehension; it is the power of the mind to choose from generic images stored up one to which can be assigned a new sensation. This movement or power is called "opinion."

Every image which we obtain by the act of apprehension... is the shape of the concrete object and is produced by the constant repetition of the image or the impression it has left. Now falsehood and error always lie in the addition of opinion with regard to what is waiting to be confirmed or not contradicted, and then is not confirmed or is contradicted. Error would not exist unless another kind of movement too were produced inside ourselves; closely linked to the apprehension of images, but differing from it; and it is owing to this, supposing it is not confirmed or is contradicted, that falsehood arises.

Opinion has no guarantee of truth as the power of apprehension has. This latter is always true because it gets an image which corresponds to an idol. Opinion looks over the general concepts or phantasms and chooses one to which it can give the new sensation. In many cases its choice will be correct; for

18 Epicurus, Letter to Herodotus, §§ 38, 62; De Rerum Natura,
20 Bailey, Greek Atomist and Epicurus, p. 422.
example, if the sensation gives a clear image of a near object, if the image is obscure because, for example, it comes from a distant object, the mind may "opine" that the sensation should be placed here, when in reality it should be placed somewhere else. That is why a square tower at a distance seems round.

Multa videmus quae violare fidem quasi sensibus omnia quaeerunt, nequiquam, quoniam pars horum maxima fallit propter opinatus animi quae addimus ipsi, provisis ut sint quae non sunt sensibus visa.21

The mind receives film through the organs of sense, but does not always take into account distortions due to the colliding of atoms in transit. Optical illusions are traceable to the opinions which we ourselves add, taking as seen what has not been seen by the senses.

There is no error in the sense perception, for it is the immediate outcome of the contact of the idol with the sense-organ; the error lies in the 'addition of opinion,' the selection by this secondary movement of the mind of the general concept with which it will identify the image.22

In explaining why the senses themselves cannot be deceived, Lucretius starts out with something approaching the scholastic axiom, "Nihil est in intellectu quod prius non fuerit in sensu." "You will find that it is first of all from the senses that the concept of truth has come; the senses

21 De Herum Natura, IV, 462 ff.
22 Bailey, Greek Atomists and Epicurus, p 422.
cannot be deceived." Why can they not be deceived? Because it would first be necessary to find a norm to measure the truth of the senses. The only possible standard would be the intellect cannot be the criterion since the intellect gets its data from the senses. Lucretius seems unaware of the fact that man has the power to criticize sense-data with his mind. Moreover, according to Lucretius, one sense cannot refute another. If we hear a loud noise, the eye cannot tell us that it is not loud inasmuch as the eye has its own peculiar function, namely, to see colored things.

An poterunt oculos aures reprehenderes, an aures tactus? ...Non ut opinor ita est. Nam seorsum cuique potestas divisa est, sua vis cuique est, ideoque necesse est et quod molle sit et gelidum fervensque seorsum et seorsum varios rarum sentire colores.24

perhaps if Lucretius went just a step further, he would have approached the true criterion. Why does the ear get a loud sound if not because there is an object making the sound, or, to use philosophical language, unless there is objective evidence? Truth then for the poet is the conformity between the senses and the object, not the conformity of the intellect to the thing.

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23 Cf. page 30 of thesis.
24 De Rerum Natura, IV, 436 ff.
CHAPTER V

AUDITORY SENSATIONS

Next in importance from the viewpoint of cognition is the sense of hearing. Since on previous pages we have explained the nature of sensation in detail, it will now be sufficient to give a few points proper to the faculty of hearing.

The cause of auditory sensations is sound striking upon the ear. As Lucretius says, sound is heard when it creeps into the ear and strikes that sense with its body. Sound, therefore, is bodily. Why? To answer this question Lucretius entangles himself in the old fallacy of begging the question. He tells us sound is bodily because it strikes upon the sense; it can strike upon the sense because it is bodily.

Principio auditur sonus et vex omnis, in auris insinuata sue pepulere ubi corpore sensum. Corpoream vocem quoque enim constare fatendum est sonitum quoniam possunt impellere sensus.\(^1\)

To confirm this the poet shows us that the voice sometimes scrapes the gullet; a cry issuing forth makes the windpipe rougher. "Per augustum turba majora coorta ire foras ubi coeperunt primordia vocum, scilicet, expleti quoque janua

\(^1\) De Rerum Natura, IV, 524.
radit tur oris." Since voices and words are able to hurt, they must consist of bodily elements. "Haud dubium est quin voces verbaque constant corporeis e principiis ut laedere possint." Another example to confirm his stand is that of the speaker who has spent a large part of his day in giving speeches. At the end of the day he is fatigued. He has lost part of his body in giving in or yielding to his oration, that is, he has to draw a great deal upon his strength and sinews in gesturing, pacing the floor of the rostrum, and so forth.

Nec te fallit item quid corporis auferat et quid detrahat ex hominum nervis ac viribus ipsis perpetuum sermo migrat noctis ad umbram aurorae perductus ab exoriante nitore, praestim si cum summost clamore profusus.4

Just how using one's sinews and strength proves that sound is in itself bodily Lucretius declines to say. He merely complacentely concludes that "Ergo, corpoream vocem constare necessest multa loquens quoniam amittit de corpore partem." The atomic-composed sounds are as it were pressed out of our bodies.

When this general idea (contact between the object and the organ of sense) is applied to the several senses, it is attended with varying degrees of difficulty. In the case of taste the function of touch is clear enough... Smell and hearing are more difficult to explain, for in their case there is no perceptible contact between the object and the

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2 Ibid., IV, 530.
3 Ibid., IV, 533.
4 Ibid., IV, 535ff.
5 Ibid., IV, 540.
percipient... Epicurus... solves the difficulty by the assumption of an effluence or emanation from things.6

In the case of hearing the corporeal sound-particles are emitted by the living thing when it utters or by an inanimate object when it makes a noise. To explain the fact that many people, all differently situated regarding the object, can hear equally well, Epicurus supposes that the current of sound emitted by the object

is split up into particles each like the whole, which at the same time preserves a correspondence of qualities with one another and a unity of character which stretches right back to the object which emitted the sound.7

The question then comes up, how are sounds going to be distinguished from one another? Lucretius tells us that the mobile tongue, artificer of words, unites or moulds the sounds, while the lips give them a definite form.

Hasce igitur penitus voces cum corpore nostro exprimimus rectoque feras emittimus ore, mobilis articulat verborum daedala lingua formaturaque labororum pro parte figurat.8

Words keep the union and form given them provided they do not have too great a distance to travel to the ear that will pick them up. If there is too great a distance, they will lose their form become confused, and the result is a blun. *Si interpos--

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6 Hailey, Greek Atomists and Epicurus, p. 404.
7 Epicurus, Letter to Herodotus, #52.
8 De Rerum Natura, IV, 549
itum spatium sit longius aequo, aera per multum confundit verba
necesset et conturbari vocem, dum transvolat auras." In this
lies the explanation of why sometimes we hear a person's voice
without being able to make out what he is saying.

From the fact that many of us can hear what one person
says Lucretius concludes that one voice disperses itself into
many voices. "In multas voces vox una repente diffugit, in
privas quoniam se dividit auris." Not all voices will find
an ear. Some will be lost in the air. If the "earless" voice
happens to hit a rock, it will be beaten back. In this prin-
ciple we have the explanation of the echo.

Quae pars vocum non auris incidit
ipsas, praepterlata perit frustra diffusa
per auras. Pars solidis adlisa lecis
reiecta somorem reddit et interdum
frustratur imagine verbi. Quae bene
cum videas, rationem reddere possis tute
tibi atque aliis quo pacta per loca sola
maxa paris formas verorum ex ordine
reddant, palantis comites quem montis
inter opacos quaerimus et magna dispersos
voce ciemus. Sex etiam aut septem loca
vidi reddere vocis, unam cum jaceres;
ita colles collibus ipsi verba repulsantes
iterabant dicta referri.11

One final characteristic of sound is that it can pass
through eye cannot see. For example, we have all heard a con-
versation going on even though there is a wall between those
conversing and ourselves. The only explanation is that sound

9 Ibid., IV, 557.
10 Ibid., IV, 565.
11 Ibid., IV, 568-579
can pass through "tortuous passages" in a substance, while images cannot, inasmuch as they are split up unless they have straight passages (like glass) to go through.

Quod superest, nom est mirandum qua ratione, per loca quae nequeunt oculi res cernere apertas, haec loca per voces variant aurisque lacesant. Comloquium clausis foribus quoque saepe videmus, nimirum quia vox per flexa foramina rerum incolunmis transire potest, simulacra remuant; perscinduntur enim nisi recta foramina tranant, qualia sunt vitrei, species qua travolat omnis. 12

Another reason why sound passes where eye cannot see is that voice splits up into other voices and each goes off in a different direction, as we saw above. Images however, when shot off from surfaces of things, tend to spread straight ahead, instead of breaking and going in different directions.

Praeterea partis in cunctas dividitur vox, ex aliis aliae quoniam signuntur, ubi una dissolvit semel in multas exorta, ...ergo replentur loca vocibus, abdita retro omnia quae circum fervant sonituque sientur. At simulacra vias directas omnia tendunt ut sunt missa semel; quapropter cernere nemo saepem ultra petis est, at voces accipere extra. 13

Such is Lucretius' theory of auditory sensations.

12 Ibid., IV, 595-602.
13 Ibid., IV, 603-611.
CHAPTER VI
CONCLUSION

Man's life once lay oppressed under the trying burden of Religion, which appeared in the heavens threatening insecure creatures. Threats came in the form of well imagined fables, storms, thunderbolts, earthquakes. These, instead of being interpreted as natural phenomena, were taken as so many indications of divine wrath. To appease the wrath of the gods impious deeds were perpetrated, evils to which religion alone could persuade men. Pliny says that in 07 B.C. a decree of the Senate was passed which forbade human sacrifice. "It cannot be estimated what a debt is owed to the Romans who have done away in Gaul and Britain with monstrous rites in which it was counted the height of religion to kill a man and a most healthy thing to eat him." Anyone who has read widely in literature knows Lucretius' stand on the matter. "Tantum religio potuit suadere malorum," he says referring especially to the sacrifice of Iphigenia. Lucretius set himself to the task of destroying the bonds that kept man's spirit in such

1 Pliny, Natural History, xxx, 12, 13, quoted by Glover in Conflicts of Religions in the Early Roman Empire.
2 De Herum Natura, I, 1017
abject slavery to the gods. In other words he aimed at nothing less than showing the human race how to acquire what every man desires—happiness. Happiness can be had only if we understand the laws of Nature because only then can we place fearful things in their proper perspective. By the conviction that there is no infinite Designer behind the marvellous workings of the universe, we can free our minds from the superstition that causes so much unrest and turmoil for the soul.

Principium cujus hinc nebès exordia sumet, nullam rem e nila gigni divinitus umquam. Quippe ita formide mortalis continet omnis. quod multa in terris fieri caeleque suntur quorum operum causas nulla ratione videre pessunt ac fieri divine numine rentur.

When Lucretius considers the psycho-physical process of sensation, he does so with the same underlying current of disgust for such a superstition as the eternal life of the soul. In the third book of his work the poet presents the inter-relation of body and soul. In his discussion of the soul's nature he offers almost thirty reasons against immortality. The end of the book is a song of joy because he has been victorious over fear of death or of a future life.

The aspect of the soul that we chose to consider in this thesis is its activity of sensation. After a careful analysis

3 De Rerum Natura, I, 149 ff.
4 Ibid., III, 417 ff.
5 Ibid., III, 909 ff.
of Lucretius doctrine, we now bring into relief the conclusions we have been arriving at throughout the thesis.

The very foundation on which he builds his philosophy is entirely erroneous, namely, that there is no infinite God guiding the workings of the universe. If that is true, sensation is impossible because all the activity of finite beings requires God's conservation.

Quae bene cognita si teneas, natura videtur libera continua dominis privata superbis ipsa sua per se sponte omnia dis agere expera...Quis regere immensit summam quis habere profundis indu manu validas potis est moderanter habenas.6

Freeing the world from the God Who made it Lucretius puts himself to the task of explaining the existence of creation. Here again he puts forth a false principle. If there is no God to create the world, that world has in itself the power of self-existence. "Principium cujus [naturae] hinc nobis exordia sumet: nullam rem e nilo digni divinitus umquam." Therefore, the world is infinite and was not made by design or intention.

Nam certe neque consilicio primordia rerum ordine se quo quaeque sagaci mente locarunt nec quos quaeque darent motus perpigere profecto.9

So far we have seen that God does not govern the world, nor did he create it. Consequently, when we study the human

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6 Ibid. 1 II, 1090 ff.
7 Ibid. 1, 150.
8 Ibid. 1, 1000 ff.
9 Ibid. II 1001.
soul, logic demands that we suppose it to be material; since only God can create a spiritual soul. However Lucretius explicitly states that the soul is material, composed of small, mobile atoms. If the soul is material, differing from other material objects only in the fineness and smoothness of its component parts, how can one ever have sensation, a cognositive process which requires a principle essentially higher than matter? It is entirely beyond the sphere of an atom to think. "We seem to pass 'per saltum' from the chaos of lifeless elements to the perfect order and manifold life of our system."

Moreover, experience, contrary to Lucretius' conviction, shows that there is no physical contact as explained in the thesis. The material object is really distinct from the perceiving subject to the extent that the material representation of the object does not enter the soul of the sentient being.

Then considering the question from the aspect of the object, we find more difficulties. First, what causes the images to spring or flow from the object? If such a property were inherent in the atoms, the ceaseless emissions would necessarily produce change at least in the exterior of bodies.

Again, Lucretius has no explanation for the supposition that material images, working on a material soul, can cause a sensation, a process essentially superior to both co-principles.

10 Ibid., III, 461.
11 Sellar, Roman poets of the Republic, p. 326.
Another cardinal point in this theory that is not satisfactory is that of the fourth or nameless element. Lucretius realizes that he is pressed by the ever new difficulty of mind and matter. He evidently presumes he can solve that difficulty by making some atoms as fine as possible; consequently, he postulates a fourth, nameless element among the soul-atoms. But the difficulty remains; it is only drawn out a little farther.

As a thinker, we class Lucretius with that great number of earnest but misguided philosophers, the ruins of whose systems lie strewn along the path of human progress through the ages. 12

The thought of Lucretius is re-echoed today in a book representative of modern materialism; it is Bertrand Russell's A Free Man's Worship.

That Man is the product of causes which had no provision of the end they were achieving; that his origin, his growth, his hopes and fears, his loves and his beliefs, are but the outcome of accidental collocations of atoms; that no fire, no heroism, no intensity of thought and feeling, can preserve individual life beyond the grave; that all the labors of the ages, all the devotion, all the inspiration, all the noonday brightness of human genius are destined to extinction in the vast death of the solar-system, and that the whole temple of Man's achievement must

be buried beneath the debris of a universe in ruins...all these things, if not quite beyond dispute, are yet clearly certain that no philosophy which rejects them can hope to stand. Only within the scaffolding of these truths, only on the firm foundation of unyielding despair, can the soul's habitation henceforth be safely built.13

Like Lucretius, Russell and the cohort of materialists following him wish to explain everything in terms of matter, atoms, and the like. They too are doomed to failure because their whole "explanation" of the world and especially of man as part of that world rests on the extremely unstable, sandy foundation of unreality. Lucretius and the many who follow at least his trend of thought, if not his detailed doctrine, begin with the absurdity of removing God not only from the world He made, but even from existence itself. Lucretius' fantastic concept of material gods is equivalent to atheism. Naturally if there is no superior being than man, there is no one to reward or punish him. The next step is to deny man needs a superior being who will play the role of remunerator or chastiser; implicit in this is the mortality of the soul. A future life would of necessity involve punishment for sin; this would cause fear. But why should we make life miserable by being afraid of any possible future life? We do not have to

future life. Hand in hand with the rejection of immortality goes denial, at least practical denial, of morality. Then, in the terms of Russell, omnipotent matter, "blind to good and evil, reckless of destruction, rolls on its relentless way."

Such is the process of Lucretius who, confusing true natural worship of God and its pagan abuses, dragged the oppressed common man down lower and lower, until he literally has nothing whatsoever to live for. Our answer to Lucretius is a paraphrase of what Shakespeare once said, "There are more things in heaven and earth, Lucretius, than are dreamt of in your philosophy."
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APPROVAL SHEET

The thesis submitted by Joseph Michael Walsh, S. J. has been read and approved by three members of the Department of Classics.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

August 15, 1944

Signature of Adviser