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JUDITH LOUISE PRESLER

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A PHILOSOPHICAL EXAMINATION OF EPICURUS' ATOMISM

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By

K. R. Merrill

J. Clayton Feaver

C. W. Berenda

Robert W. Shahan

R. T. Wallis

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CHAPTER I

INTRODUCTION

Epicurus' letter to Herodotus is an epitome of his atomistic system.[1] The letter sets forth the fundamental principles of the system and the method to be employed in developing a detailed account of nature from those fundamental principles.[2]

In this dissertation I develop, according to the method Epicurus prescribes in the letter to Herodotus, a detailed atomistic account of nature from the fundamental principles of Epicurus' system. This procedure serves not only to elucidate Epicurus' account of nature but also to test his system for consistency and adequacy.

By developing a detailed account of nature, one elicits both the particular propositions implied by the fundamental principles and the explanation of the phenomena provided by the fundamental principles. At the same time, the detailed account may be examined in order that one may determine whether the fundamental principles are consistent and whether the system provides an adequate explanation of the phenomena.

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[1]Letter to Herodotus (hereinafter referred to as H), sec. 37.

[2]H, secs. 36 and 83.

If the fundamental principles are inconsistent, one may discover that they generate inconsistent explanations of the same phenomenon. And if the system is an inadequate explanation of the phenomena, one may discover this inadequacy in attempting to use the developed system to explain the phenomena.

My examination of Epicurus' system, then, is not directed towards showing either his debt to his predecessors or the development of his position by his successors, but only towards clearly explicating his position on the basis of his own first principles. Epicurus is said to have written a detailed account of nature.[1] However, this work is no longer extant. Thus it is only by developing a detailed account from Epicurus' epitome that we can discover his own account of nature.

Epicurus' philosophy is said to have three parts: The Canon, the Physics, and the Ethics. The Canon is Epicurus' methodology; the Physics, his theory of nature; the Ethics, his theory of the proper conduct of life.[2]

Epicurus' Canon sets forth the measure of truth and the procedure one must follow in order to apply that measure in the investigation of nature. Epicurus explains and employs his Canon in the letter to Herodotus.

Epicurus holds that the measure of truth is empirical evidence. According to him, empirical evidence consists in sensations, concepts, and feelings. In the letter to Herodotus he states:

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[1]Diogenes Laertius The Life of Epicurus (hereinafter referred to as Life), sec. 30.

[2]Ibid.

" . . . [I]t is necessary to preserve absolutely all things in accordance with sensations and, particularly, with the present acts of direct apprehension, whether of the mind or of any one of the instruments of judgment whatever, likewise, also, in accordance with the emotions actually present in us . . . ."[1]

The sensations are the particular colors, sounds, odors, temperatures, and flavors that come to the perceiver from without and that are directly apprehended by the senses.[2] The perception of these particular qualities is veridical, according to Epicurus; for the qualities come to the perceiver in precisely the same form they enjoy in the body from which they come.[3] Thus a judgment that a body has a certain sensed quality is verified by the direct apprehension of that quality.

The concepts directly apprehended by the mind are built up out of sensations. For the mind develops concepts by combining or comparing directly apprehended sensations[4] or sensations that were once directly apprehended and then were stored in memory.[5]

The feelings actually existing in us are the pleasures, the pains, and the various motions and activities we experience within ourselves. The direct apprehension of these internal feelings provides the evidence to be used in judging what to choose and what to avoid,

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[1]H, sec. 38: " . . . κατὰ τὰς αἰσθήσεις δεῖ πάντα τηρεῖν καὶ ἁπλῶς τὰς παρούσας ἐπιβολὰς εἴτε διανοίας εἴθ' ὅτου δήποτε τῶν κριτηρίων, ὁμοίως δὲ κατὰ τα ὑπάρχοντα πάθη . . . ."

[2]H, secs. 49-53. [3]H, secs. 49, 52, and 53.

[4]Life, secs. 32 and 34; H, secs. 63 and 82. [5]Life, sec. 33.

and in judging the nature of the soul. The evidence used in choice and avoidance is pleasure or pain. The evidence used in judging the nature of the soul is the activity within us.[1]

The most obvious use of empirical evidence is the verification of judgments about things that may be directly apprehended.[2] The judgment that the apple is red is proved true by our seeing that the apple is red.

Empirical evidence may also be used to evaluate judgments about things that are not directly apprehended. Things that are imperceptible cannot be apprehended. Neither things that are too far away to be perceived clearly nor the general conditions that obtain in reality are susceptible of direct apprehension. Because they cannot be directly apprehended, these latter two present problems in sense-perception. To verify judgments about such things Epicurus uses "first notions," analogies, or causal explanations.

Epicurus holds that the first notion associated with each word provides a standard in terms of which one may judge of the problems of sense-perception and of the imperceptibles.[3] If one does not apprehend and use the first notion of a word, that word will be either meaningless or in need of explanation.[4] If one uses first notions, one may correctly understand words used in the expression of (or compre-

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[1]H, secs. 63 and 82; Life, sec. 34; the letter to Menoeceus (hereinafter referred to as M), secs. 128 and 129.

[2]The Principal Doctrines of Epicurus (hereinafter referred to as KD) XXIV.

[3]H, secs. 37 and 38; Life, secs. 33 and 34. [4]H, sec. 37.

hension of) any judgment about a problem in sense-perception or about something imperceptible. First notions are concepts based upon particular sensations or feelings that have been directly apprehended.[1]

The meaning of, or first notion associated with, the term "pain" is a painful sensation or a remembered experience of a painful sensation. The meaning of, or first notion associated with, the term "red" is an image of red or a remembered sensation of that color. The meaning of, or first notion associated with, the term "color" is a combination of several directly apprehended color sensations or of color sensations that have been retrieved from memory.

If one wishes to make a judgment about visible qualities in general, one must use a first notion that is based upon particular experiences of visible qualities. In this way one may make a judgment about a general feature of the empirical world, a feature that is not directly apprehensible.[2] And if one wishes to make a judgment about imperceptible bodies, one uses a first notion of "body," derived from particular experiences of bodies, and makes a judgment with respect to those features of body that do not belong to bodies because they are perceivable but because they are bodies.[3]

If one wishes to make a judgment about things that are too far away to be clearly perceived, one judges in terms of things directly

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[1]Life, secs. 32 and 33; H, secs. 37 and 38.

[2]For an example of this see Epicurus' account of vision in H, secs. 46-52.

[3]For an example of this see Epicurus' account of the atoms in H, sec. 39 and secs. 54-55.

apprehended that are consistent with, or analogous to, those things at a distance.[1] One can also understand the imperceptible bodies by analogy to perceivable bodies. For example, when Epicurus argues that atoms are measurable in terms of what he calls "indivisible minima," he does so by analogy to the "indivisible minima" of perceivable bodies.[2]

And if something is known through perception to be the case, one can consider the possible causes or conditions for it. If there is only one non-contradictory possibility for such a cause or condition, then one knows the cause, even if the cause is not perceivable.[3] Epicurus uses this method to account for the nature of the soul. He argues that it must be a body because it causes certain effects.[4] He also argues in this way to account for the number of kinds of atoms. He says that the atoms must be of innumerable kinds, because there is a great variety of compounds of atoms.[5]

The Physics of Epicurus is an account of nature. Atoms and the void are the fundamental constituents of nature, according to Epicurus. He holds that out of atoms and the void all things are made and in terms of atoms and the void all things are explained. Inasmuch as he holds that atoms and the void are the only things that exist and the only things needed to explain things, Epicurus is a materialist.

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[1]The letter to Pythocles (hereinafter referred to as P), secs. 46-52.

[2]H, secs. 58-59 and infra, Chapter II, pp. 23-24.

[3]P, sec. 86. Here Epicurus says that there is only one explanation of the fundamental elements of nature which is consistent with the phenomena.

[4]H, sec. 63. [5]H, secs. 55-56.

Epicurus' Ethics is his account of the good life.[1] Since, according to Epicurus, pleasure is the beginning and the end of the good life, he holds that the measure of choice and avoidance in human conduct is pleasure and pain respectively.[2] Insofar as the Canon makes the feelings actually existing in us one of the measures of truth, one foundation for correct thinking in ethics is found in the Canon.

The pleasures that are the end of the good life are health of the body and freedom from disturbance in the soul. The first is brought about by a judicious choice of immediate pleasures;[3] the second, by knowledge.[4] The knowledge that most significantly promotes the blessed life is the knowledge obtained through the study of physics. For it is knowledge of the true nature of the gods,[5] the cosmos,[6] and the soul[7] that leads to a life of blessedness for the soul;[8] and the nature of these things is the subject matter of physics. Thus Epicurus' Physics, like his Canon, stands in support of his Ethics.

In this dissertation, I develop a detailed Epicurean account of reality in order to explain things that are imperceptible and some things in the realm of perception that are problematic. The imper-

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[1]M, sec. 123. [2]M, secs. 128-30.

[3]A kind of knowledge is needed here, too, a correct assessment of human life, desire, and pleasure. See M, secs. 127-29.

[4]M, secs. 128 and 131-32.

[5]See M, secs. 123-24 where he also appeals to a correct use of the Canon to understand the gods.

[6]M, sec. 134; H, secs. 77-83.

[7]M, secs. 124-26. See, also, H, secs. 63-68. [8]M, sec. 132.

ceptible objects I consider are: (1) atoms and the void and (2) the soul. The problematic questions about perceivable objects are: (1) How are perceivable objects composed out of atoms and the void? and (2) What is the nature of the qualities of compound bodies?

It is necessary to first give an account of atoms and the void because Epicurus holds that atoms and the void are the ultimate realities out of which all other things are composed and in terms of which all other things are explained.[1] Epicurus' statements about atoms and the void are his starting points for the development of a detailed account of nature. After examining Epicurus' starting points, I then develop and examine an account of compound bodies and the soul. My examination of this account reveals some inadequacies of an Epicurean account of nature.

Epicurus' atomistic account of perceivable compound bodies proves to be inadequate to account for the unity and nature of the perceivable compound bodies, and the natures of the properties and accidents of compound bodies and the distinction between them.

His atomistic account of the soul proves to be inadequate to account for awareness, will, and the formation of concepts and their use in judgment.

Insofar as there are inadequacies in Epicurus' account of reality and insofar as that very account is meant to be a support[2] of

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[1]H, secs. 39-41.

[2]See supra, p. 7, where I explain how Epicurus' Physics is intended to be a support of his Ethics.

his ethics, Epicurus' ethics, too, is inadequately accounted for. Specifically, Epicurus' account of reality, his atomism, is intended to provide the kind of knowledge that will bring about freedom from disturbance in the soul; but insofar as the atomism fails to provide that knowledge, the ethics is ill-supported. Epicurus' account of the soul is intended to support certain conclusions in the Ethics,[1] but the account of the soul is inadequate and fails to support those conclusions. Epicurus' account of the formation and use of concepts is also inadequate to support his ethics because it fails to account for the existence and use of the sorts of concepts that Epicurus suggests one use in judgments about human conduct.[2]

These are the principal inadequacies of Epicurus' atomism that will be considered in this dissertation. Some lesser, related difficulties in his position will be examined in passing.

Having examined carefully (in Chapter II) the fundamental elements of Epicurus' system, in order to make clear what these elements are capable of explaining, I then examine what Epicurus says concerning compounds of these elements (in Chapter III). The first significant mark of inadequacy is disclosed in the examination of the nature of compound bodies. In this examination it is determined that it is not its matter to which a compound body owes its unity but to the organization of its matter; the unity of a compound body is owing to a sort of

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[1]For example, his view that death is nothing to us (M, sec. 124) is supported by his view that the soul does not exist after death (H, secs. 65-66).

[2]I refer to the concepts of pleasure and pain. I consider how Epicurus could account for such concepts in Chapter VIII.

formal cause rather than a material cause. Further, it is determined that, in part, the nature of a compound body is owing to the organization of the matter rather than to the matter itself. This inadequacy of Epicurus' materialist explanation lies in the fact that the significant determinations of compound bodies (that is, the unity and nature of these bodies) are not material determinations but formal determinations. For if one is to give an account of compound bodies in the physical framework that Epicurus provides, one must appeal, not to a material cause, but to a formal cause.

In considering Epicurus' view on properties and accidents of compound bodies (in Chapter IV), I discover two problems. On the one hand, the account of the perceivability of perceivable attributes[1] is inadequate. The inadequacy arises from the incompatibility of his epistemology with his physics. On the other hand, it is impossible to give a consistent and adequate account of the natures of properties and accidents and of the relationship between them.

According to Epicurus' position, perceivable attributes, like all other things, must be explained in terms of atoms and the void. Atoms and the void do not possess the attributes of color, odor, flavor, temperature, or sound; yet, when the atoms and the void combine, these perceivable attributes come into being. That this happens in reality is inexplicable in Epicurean terms.

One suggested explanation[2] is, again, a formal one--that it

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[1]These are accidents.

[2]By Cyril Bailey in The Greek Atomists and Epicurus (hereinafter referred to as Atomists) (Oxford: Clarendon Press, 1928), pp. 347-57.

is owing to their organization that the combined atoms are responsible for perceivable attributes. But even this explanation is inadequate, for it is not at all clear how, just by being combined together, the atoms, which do not possess perceivable attributes, can be responsible for perceivable attributes in compound bodies.

The source of this difficulty is Epicurus' combination of his particular metaphysics--his materialism, his atomism--with his epistemology, which is a kind of empiricism. . Although Epicurus holds that the only real things are atoms in the void, yet, he also holds not only that all knowledge derives, ultimately, from sense-experience, but also that the evidence of the senses is veridical. By the latter, he means that the attributes perceived are the attributes that really belong to the perceived bodies. According to Epicurus, perceived attributes are actually the attributes of a body and they travel from the body to which they belong to the perceiver. Thus the perceived attributes must really exist out in the world.[1]

Epicurus' difficulty concerning the ontological status of perceivable attributes arises because of the conflict between his materialism and his empiricism. The inconsistency in Epicurus' position lies in the fact that, for example, the actual color of an object is directly perceived, thus it is necessary to allow it reality; but, since only atoms and the void are real things, and since they do not possess color, color cannot be real. His materialism (that is, his atomism) demands that color is not real; but his epistemology (that is, his empiricism) demands that color is real.

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[1]See infra, Chapter V, pp. 91-98.

The second difficulty arises in Epicurus' account of the natures of the properties and accidents of compound bodies.[1] On the face of it, Epicurus does not provide a consistent account of properties and accidents. And none of the possible interpretations of his view on properties and accidents (interpretations that would be consistent) is adequate with respect to his criterion of truth.

Epicurus' philosophy again proves to be inadequate in his materialist account of the soul.[2] For his materialist explanation fails to account for awareness and will. And, his empiricism as well as his view on the soul prove to be inadequate, in the theory of knowledge, to account for the formation and use of concepts. In this case the empiricism and materialism are not in conflict with each other as they are in the account of the reality of sense-perceivable attributes. Rather, in this case, Epicurus' empiricism, which makes it impossible to account for the formation and use of concepts, is what it is, mainly, because of the materialist account of the operations of the soul from which it results--his materialism determines the kind of theory of knowledge that Epicurus must hold.

In considering the support that Epicurus' physics provides his ethics, one discovers further difficulties.[3] There are several ways in which the physics is meant to support the ethics: In the first place, the knowledge that is embodied in the physics is supposed to be conducive to the peaceful state of mind desired in the good life. For

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[1]See infra, Chapter IV.

[2]See infra, Chapters VI and VII.

[3]See infra, Chapter VIII.

such knowledge engenders an appropriate attitude towards the nature of reality, the gods, and death. The Epicurean atomistic account of reality is an attempt to describe a reality in which gods are not of the sort to be feared, in which all is not determined according to necessity, and in which the soul does not suffer after death. But Epicurus' atomism is inadequate to account for the phenomena for which he wishes to account. Thus the account will have to be altered, if it is to explain these phenomena. However, if it is so altered, it may no longer be able to provide serenity concerning nature, the gods, and death.

In addition, Epicurus' atomism is inadequate to account for the special characteristics of the soul--awareness and will--that are essential to his ethical position. For the will is what possesses the freedom of choice--an important factor in Epicurus' ethics.[1] Awareness is an essential prerequisite to deliberation; deliberation precedes choice.

Lastly, Epicurus' account of reality is inadequate to support his ethics in another way. Epicurus' general account of the formation and use of concepts fails to explain those functions of the soul. The particular application of this account to ethics is discovered in a consideration of the conceptual framework needed to deal with ethical concerns in the way in which one must, according to Epicurus, consider solutions to ethical problems.

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[1]In M, sec. 128, Epicurus speaks of choice and avoidance; in sec. 133, of some events being of necessity, some by chance, and some within our control. Chance and will are owing to the same cause in Epicurus' atomistic account, as will be seen infra, Chapter II and Chapter VII, pp. 31-32 and 164-70.

I have outlined above the philosophical examination undertaken in this dissertation. In the chapters that follow, I shall develop, in accordance with his empirical method, Epicurus' account of reality. I shall consider his accounts of atoms and the void, compound bodies, and the properties and accidents of bodies. At the same time I shall examine that account for consistency and adequacy.

CHAPTER II

ATOMS AND THE VOID

Atoms and the void are the fundamental elements in nature; and nothing can be explained until they have been explained. If one is to judge whether Epicurus' account of reality is consistent and adequate, one must understand the nature of the fundamental elements out of which all else is made and in terms of which all things are explained.

Epicurus begins his discussion of atoms and the void in this way: " . . . [I]t is necessary to consider now the unseen. First of all, nothing comes to be from that which does not exist; for if this were the case, everything would come from everything without the need of seeds."[1]

In considering the basic question of physical philosophy--What is the matter out of which everything in nature is made?--, Epicurus tacitly accepts the Atomists' position that the underlying matter is a plurality of imperceptible bodies. Epicurus' concern is the same as that of those presocratic physical philosophers who sought to explain the changing phenomenal world in terms of a fundamentally

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[1]H, sec. 38: " . . . δεῖ . . . συνοπᾶν ἤδη περὶ τῶν ἀδήλων πρῶτον μὲν ὅτι οὐδὲν γίνεται ἐκ τοῦ μὴ ὄντος. πᾶν γὰρ ἐκ παντὸς ἐγένετ' ἂν σπερμάτων γε οὐθεν προσδεόμενον."

unchanging, underlying reality.[1] Epicurus tacitly accepts the Atomists' position because he is concerned to account for the perceivable world. And since things in the perceivable world do change and do come into existence and pass out of existence, if the underlying reality is stable, it cannot be perceivable. It is possible to account for change and plurality in the perceivable world in terms of a plurality of imperceptible, unchanging elements that enter into and leave combinations. For such elements can combine and disperse in such a way as to bring about change in the perceivable world of compound bodies.[2]

Having taken up the quest of earlier physical philosophers and the basic position of the Atomists, Epicurus then considers the details of the position according to his own criteria of truth. He appeals to the evidence of sense-experience, and to concepts that are derived from sense-experience.

Epicurus argues that nothing comes to be from what does not exist.[3] He appeals to the empirical evidence that whatever comes to be, comes to be from something (a seed).

He next argues that nothing is destroyed. He says: "And if that which disappears were destroyed into that which did not exist, all things would have perished, that into which they were dissolved not existing."[4] Apparently Epicurus is arguing from the concept of

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[1]Included among these philosophers are the Milesians, as well as Empedocles and Anaxagoras.

[2]See infra, Chapter III, for a full account of compound bodies.

[3]See supra, p. 15 and, also, H, sec. 38.

[4]H, sec. 39: "καὶ εἰ ἐφθείρετο δὲ τὸ ἀφανιζόμενον εἰς τὸ μὴ ὄν, πάντα ἂν ἀπωλώλει τὰ πράγματα, οὐκ ὄντων εἰς ἃ διελύετο."

"destruction" that we derive from experience is, generally, not a notion of disappearance, but simply of dissolution into smaller existing parts. Since empirical evidence is the criterion of truth, one must suppose that when the dissolution is into imperceptible parts, the case is the same--the dissolution is into smaller parts. If, when a thing disappeared, it disappeared into nothing, then there would not be anything at all ("all things would have perished"), for that into which it dissolved could never have combined together to make something existent in the first place ("that into which it dissolved never existed").[1]

Epicurus next says: " . . . [E]verything always was and will be the same as it is now. For there is nothing into which it changes and there is nothing outside of it to come into it and bring about change."[2] Here, again, Epicurus seems to be appealing to the concept of the principal term in the argument, that is, "everything". Seemingly, since by "everything" one means all that there is, the whole of things, or the universe, then its opposite is nothing. The only alternative to everything is nothing. And since nothing does not exist, and things are not destroyed, everything cannot change into nothing. And, since everything is all that there is, of course there is nothing else outside of it to come into it and bring about change; thus change cannot be accounted for in that way, either. So, everything always was and will be the same as it is now.[3]

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[1] Ibid.

[2] H, sec. 39: " . . . τὸ πᾶν ἀεὶ τοιοῦτον ἦν οἷον νῦν ἐστι, καὶ ἀεὶ τοιοῦτον ἔσται. οὐθὲν γάρ ἐστιν εἰς ὃ μεταβάλλει. παρὰ γὰρ τὸ πᾶν οὐθέν ἐστιν, ὃ ἂν εἰσελθὸν εἰς αὐτὸ τὴν μεταβολὴν ποιήσαιτο."

[3] Ibid.

Having established the fundamental stability of whatever is (nothing new is created, nothing is destroyed, nothing really changes), Epicurus next describes the nature of what is. " . . . [E]verything is ⟨bodies and space⟩."[1] "That there are bodies is attested to by men's experience; its application to the imperceptible is by a judgment of reasoning . . . ."[2] In experience we discover that a body is whatever takes up space or whatever has length, breadth, depth, and weight. Having derived from experience a concept of body, one can apply that concept to imperceptible objects. For we observe, according to Epicurus, that whatever is, is corporeal. That there must be space is attested to by the perceivable fact that bodies move,[3] and the judgment that "[w]ere there not space they could not move nor would they have a place in which to be . . . ."[4]

Besides bodies and space nothing else exists, since " . . . nothing else can even be thought of by conception or on the analogy of things conceivable . . . ."[5] That is to say, nothing else

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[1]H, sec. 39: " . . . το πᾶν ἐστι ⟨σώματα και τόπος⟩." Bailey says in his commentary on Epicurus' writings [Cyril Bailey, Epicurus: The Extant Remains (Oxford: Clarendon Press, 1926) (hereinafter referred to as Bailey), p. 181], "The addition made by Usener i.e., σώματα καὶ τόπος is amply justified."

[2]H, sec. 39: "σώματα μὲν γὰρ ὡς ἔστιν, αὐτὴ ἡ αἴσθησις ἐπὶ πάντων μαρτυρεῖ, κατ' ἣν ἀναγκαῖον τὸ ἄδηλον τῷ λογισμῷ τεκμαίρεσθαι . . . ."

[3]H, sec. 40.

[4]H, sec. 40: "εἰ ⟨δε⟩ μὴ ἦν ὃ κενὸν καὶ χώραν καὶ ἀναφῆ φύσιν ὀνομάζομεν, οὐκ ἂν εἶχε τὰ σώματα ὅπου ἦν οὐδὲ δι' οὗ ἐκινεῖτο . . . ."

[5]H, sec. 40: " . . . οὐθὲν οὐδ' ἐπινοηθῆναι δύναται οὔτε περιληπτικῶς οὔτε ἀναλόγως τοῖς περιληπτοῖς . . . ."

" . . . can be grasped as whole existences but only be spoken of as accidents or properties of such existences."[1]

Epicurus then distinguishes between bodies which are compounds and bodies of which compounds are formed,[2] and goes on to describe the latter and, again, to argue for their permanence. These ultimate elements are indivisible, unalterable, solid,[3] can by no means be dissolved in any part.[4] These first beginnings are indivisible corporeal existences.[5] Since they are indivisible they cannot be dissolved, and thus they are permanent. They remain the same and underlie the changing world. The first bodies must be indestructible, " . . . if all things are not to be destroyed into the non-existent, but something permanent is to remain behind in the dissolution of compounds . . . ."[6]

The passages just cited are Epicurus' expressions of the traditional arguments for the fundamental unchangingness of the ultimate elements of reality. His understanding of bodies derives from sense-experience. Having derived from sense-experience the concept of real things, he then reasons, using this concept, about

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[1]H, sec. 40: " . . . ὅλας φύσεις λαμβανόμενα καὶ μὴ ὡς τὰ τούτων συμπτώματα ἢ συμβεβηκότα λεγόμενα."

[2]H, sec. 40.

[3]"πλήρη" The customary translation is "full"; the atom is full in that there is no space in it; it is impenetrable, completely full or solid.

[4]H, sec. 41. [5]Ibid.

[6]H, sec. 41: " . . . εἴπερ μὴ μέλλει πάντα εἰς τὸ μὴ ὂν φθαρήσεσθαι ἀλλ' ἰσχύον τι ὑπομένειν ἐν ταῖς διαλύσεσι τῶν συγκρίσεων . . . ."

the imperceptible underlying reality. He continues in the letter to argue that the number of atoms is infinite, that the void is in infinite in extent, that the number of sizes and shapes of the atoms is finite though innumerable, as well as that the atoms have weight, impenetrability, and motion.

Concerning the infinity of the universe, he argues as follows: " . . . [T]he whole universe is boundless. For that which is bounded has an extreme point, and that extreme point is seen against something else."[1] Again, there is nothing else besides the whole, or what there is. "So that, having no extreme point, reality has no limit. Not having a limit, it must be limitless."[2] He continues:

> Moreover, the whole is infinite both in the number of bodies and in the extent of the void. For either, if the void were infinite but the bodies were limited in number, the bodies could not stay anywhere but would be carried about through the infinite void and scattered, not having other supporting and containing them by means of collisions. Or, if the void were limited, the infinite bodies would not have room in which to take their places.[3]

The above arguments for the infinity of both bodies and space are "reasoned applications" of concepts derived from sense-observable facts (those about perceivable bodies and their space) to the imper-

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[1]H, sec. 41: " . . . το πᾶν ἄπειρόν ἐστι. τὸ γὰρ πεπερασμένον ἄκρον ἔχει τὸ δὲ ἄκρον παρ' ἕτερόν τι θεωρεῖται."

[2]H, sec. 41: "ὥστε οὐκ ἔχον ἄκρον πέρας οὐκ ἔχει· πέρας δὲ οὐκ ἔχον ἄπειρον ἂν εἴη καὶ οὐ πεπερασμένον."

[3]H, secs. 41-42: "καὶ μὴν καὶ τῷ πλήθει τῶν σωμάτων ἄπειρόν ἐστι τὸ πᾶν καὶ τῷ μεγέθει τοῦ κενοῦ. εἴτε γὰρ ἦν τὸ κενὸν ἄπειρον, τὰ δὲ σώματα ὡρισμένα, οὐδαμοῦ ἂν ἔμενε τὰ σώματα, ἀλλ' ἐφέρετο κατὰ τὸ ἄπειρον κενὸν διεσπαρμένα, οὐκ ἔχοντα τὰ ὑπερείδοντα καὶ στέλλοντα κατὰ τας ἀναπαράς. εἴτε τὸ κενὸν ἦν ὡρισμένον, οὐκ ἂν εἶχε τὰ ἄπειρα σώματα ὅπου ἐνέστη."
How bodies "contain by collisions" is explained in Chapter III.

ceptible bodies and the void.[1] That is to say, Epicurus' arguments for the infinity of reality and for the infinity of both bodies and the void, are based upon sense-perception. Observing that whenever there is a limit or boundary or end to a thing, it is always seen against, or with respect to, another thing, he then reasons that since reality is all that there is, there cannot be something else which can limit it or mark its boundary. Thus, reality must be infinite. In order to determine whether the "reality" that is infinite is the atoms, the void, or both the atoms and the void, Epicurus appeals again to empirical evidence. Observing that a finite space of a certain size is filled by just a certain number of bodies, he argues that if it is the bodies that are infinite, the void must also be infinite; since if the void were not, then the bodies would more than fill up that void. So also, observing that if there are a small number of bodies moving in a large space, it is unlikely that they will collide, and since the atoms must collide in space to account for combinations of atoms, he argues that if the reality that is infinite is the void, then there must be an infinite number of bodies in that void. Thus, if reality is infinite (and it must be infinite, since it cannot have a limit or boundary), then both atoms and the void must be infinite. For one cannot account for things being the way they are if only one or the other of these two is infinite.

Concerning the characteristics of the original bodies, Epicurus argues that they must have an incomprehensible number of different kinds of shape; since it would not be possible for the

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[1]See supra, p. 18, notes 2 and 5; and Chapter I, p. 4.

great variety of perceivable things to arise from the atomic bodies if their shapes were limited in number.[1] "And in each of the many shapes the atoms are infinite in number; but with respect to differences of shape they are not infinite in number, but only incomprehensible."[2] Since Epicurus holds that shape is related to the size of the atoms,[3] his explanation that the sizes of the atoms are not infinite but incomprehensible in number is at the same time a support for his statement that the shapes are not infinite but only incomprehensible in number.

Concerning size, he argues first that "not every size exists among atoms," for such a position would "contradict the phenomena".[4] The evidence of the phenomena dictates, as Epicurus sees it, that there be some, but not infinite, variations in size, for the following reasons: (1) There must be some variations (indeed, many variations) to account best for what occurs in our feelings and sensations. But not every size is required to explain the differences in things.[5]

(2) If there were atoms of every size, some would be perceivable. But it is contrary to the nature of the atoms to be perceivable. So there is an upper limit to the size of the atom.[6]

(3) There is also a lower limit to the size of atoms. For in a limited body there can be neither an infinite number of parts nor parts of infinite smallness.[7]

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[1]H, sec. 42.

[2]H, sec. 42: "καὶ καθ' ἑκάστην δὲ σχημάτισιν ἁπλῶς ἄπειροί εἰσιν αἱ ὄνοιαι, ταῖς δὲ διαφοραῖς οὐχ ἁπλῶς ἄπειροι ἀλλὰ μόνον ἀπερίληπτοι."

[3]H, secs. 54-59. [4]H, sec. 55.

[5]H, secs. 55-56. [6]H, sec. 56. [7]Ibid.

Concerning the lower limit to the size to the atoms, Epicurus argues as follows: On the one hand, if the atoms were infinitely divisible into smaller and smaller parts, then they would be weak and could be destroyed. On the other hand, there is not even the possibility of infinite divisibility into smaller and smaller parts. For if there were infinite parts, since no matter how small, a part must have some size, all bodies would be infinitely large and not limited in size.[1]

> And since there is a furthest point to a complete thing, a point that is distinguishable, though not also perceivable by itself, it is not possible to conceive that the one next to it is not such as that one is [that is, similar to it]. Nor is it possible to conceive that one could go on from one to another, to the next one in front, arriving at infinity in one's mind.[2]

Epicurus appeals in the above argument to the concept of the smallest distinguishable part of the atom. This concept he understands by analogy to the concept of the smallest distinguishable part of a perceivable body. Concerning the least part in the perceivable body he says:

> It is necessary to understand also that the least part in sensation is neither such as to be like that which has a transition from one part to another nor such as to be, in every respect, wholly unlike it; but it has, on the one hand, a certain commonness with such things; on the other hand, it does not have distinguishable parts. But when, because of the resemblance of this commonness, we suppose to divide something from this, the one on the one side, the other on the other, it is necessary, rather, that a like one [to the first (a different one)] meets us. Which is to say that it has no parts. And we look upon these one after another beginning from the first, each successive one

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[1]H, sec. 57.

[2]H, sec. 57: "ἄκρον τε ἔχοντος τοῦ περερασμένου διαληπτόν, εἰ μὴ καὶ καθ' ἑαυτὸ θεωρητόν, οὐκ ἔστι μὴ οὐ καὶ τὸ ἐξῆς τούτου τοιοῦτον νοεῖν καὶ οὕτω κατὰ τὸ ἐξῆς εἰς τοὔμπροσθεν βαδίζοντι εἰς τὸ ἄπειρον ὑπάρχειν κατὰ ⟨τὸ⟩ τοιοῦτον ἀφικνεῖσθαι τῇ ἐννοίᾳ."

> being different from the one before and not overlapping any other. Rather, these least parts measure out the sizes of the perceived body, more being in a greater, fewer, in a smaller.[1]

Epicurus discovers a least part in sensation: The smallest part of a sensible body, a part which is distinguishable by sensation, a part which does not have parts, itself, though it does have magnitude. It is somewhat like that which admits of progression from one part to another in that it has magnitude; but it is unlike the larger magnitudes in that it cannot be divided into parts. It is an indivisible magnitude; and every perceived body has a finite munber of these indivisible magnitudes, a greater number in a large body, fewer in a smaller. These least parts are distinguishable one from another and are one next to another; they are not such that one can distinguish parts in them, but they are such that one can assess the size of the body in terms of them, going from one to the next.

Then Epicurus proceeds to make an analogous claim for atoms, that they have least parts also. He says:

> We must suppose that the least part in the atom bears the same proportion [to the atom as the least part in a sensible body bears to the sensible body], for it is clear that the least part in an atom surpasses in smallness the one looked upon by means of sensation, yet the least part in an atom bears a resemblance to the least part in a sensible body.[2]

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[1]H, sec. 58: "τό τε ἐλάχιστον τὸ ἐν τῇ αἰσθήσει δεῖ κατανοεῖν ὅτι οὔτε τοιοῦτόν ἐστιν οἷον τὸ τὰς μεγαβάσεις ἔχον οὔτε πάντῃ πάντως ἀνόμοιον, ἀλλ' ἔχον μέν τινα κοινότητα τῶν μεταβατῶν, διάληψιν δὲ μερῶν οὐκ ἔχον ἀλλ' ὅταν διὰ τὴν τῆς κοινότητος προσεμφέρειαν οἰηθῶμεν διαλήψεσθαί τι αὐτοῦ, τὸ μὲν ἐπιτάδε, τὸ δὲ ἐπέκεινα, τὸ ἴσον ἡμῖν δεῖ προσπίπτειν, ἐξῆς τε θεωροῦμεν ταῦτα ἀπὸ τοῦ πρώτου καταρχόμενοι καὶ οὐκ ἐν τῷ αὐτῷ, οὐδὲ μέρεσι μερῶν ἁπτόμενα, ἀλλ' ἢ ἐν τῇ ἰδιότητι τῇ ἑαυτῶν τὰ μεγέθη καταμετροῦντα, τὰ πλείω πλεῖον καὶ τὰ ἐλάττω ἔλαττον."

[2]H, secs. 58-59: "ταύτῃ τῇ ἀναλογίᾳ νομιστέον καὶ τὸ ἐν τῇ ἀτόμῳ ἐλάχιστον κεχρῆσθαι· μικρότητι γὰρ ἐκεῖνο δῆλον ὡς διαφέρει τοῦ

The reason Epicurus may argue from sensation to the imperceptible atoms is that the atoms, like sensible bodies, have size. The comparison may be made since, as he says, "The atom also has size, in virtue of its resemblance to sensible things, only it is far smaller."[1] These least parts of the atoms are what one considers when one contemplates the size of the atoms. Epicurus says: "Moreover, it is necessary to consider these least and unmixed things that limit,[2] which provide in themselves primary things for the measurement of sizes, for the greater and smaller; in order that one may contemplate through reason the invisible things."[3] And he thinks that the analogy between the least parts of atoms and the least parts of sensible things justifies his saying that these least parts of atoms are not themselves divisible. For the least parts of atoms resemble the least parts of sensible things insofar as they are homogenous, but the least parts of atoms are not able to come together as bodies being in motion.[4] The least parts of atoms, then, are not physically divisible parts but rationally distinguishable parts.

κατὰ τὴν αἴσθησιν θεωρουμένου, ἀναλογίᾳ δὲ τῇ αὐτῇ κέχρηται."

[1]H, sec. 59: "ἐπεί περ καὶ ὅτι μέγεθος ἔχει ἡ ἄτομος κατὰ τὴν ⟨τῶν⟩ ἐνταῦθα ἀναλογίαν κατηγορήσαμεν, μικρόν τι μόνον μακρὰν ἐκβάλλοντες."

[2]The term is "πέρατα" which Bailey, in his commentary (Bailey, p. 212), says is "a new work specially introduced by Epicurus to denote the least parts of the atoms, just as "ἄμερα" is the least part of a visible thing."

[3]H, sec. 59: "ἔτι τε τὰ ἐλάχιστα καὶ ἀμιγῆ πέρατα δεῖ νομίζειν, τῶν μηκῶν τὸ καταμέτρημα ἐξ αὐτῶν πρώτων τοῖς μείζοσι καὶ ἐλάττοσι παρασκευάζοντα, τῇ διὰ λόγου θεωρίᾳ ἐπι τῶν ἀοράτων."

[4]H, sec. 59.

It seems to me that the ultimate purpose of this argument is to provide a way to explain differences among perceivable objects in terms of atoms. The differences among perceivable objects must be explained in terms of differences among the atoms which combine to make perceivable objects. Atoms are different from each other in respect of their sizes and shapes. Shape, as will be explained below,[1] is relative to size. Size is explained in terms of indivisible smallest parts. Indivisible smallest parts are understood empirically; Epicurus moves to a notion of the minimum unit of an atom's size from the notion of the empirically discernible minimum of perceivable objects.[2]

Lucretius provides two arguments in which he explains why the differences of shape are not quite infinite but only incomprehensible

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[1]In the paragraph following.

[2]David J. Furley [in Two Studies in the Greek Atomists (Princeton: Princeton University Press, 1967), pp. 7-27], offers a detailed analysis of Epicurus' discussion of minimal parts, which occurs in H, secs. 56-59. Furley suggests that all previous commentators, with the exception of, perhaps, one, have failed to recognize that the argument is concerned with three types of minimum quantity and that the argument assumes the existence of one kind of minimum--the physical (the atom). The argument, he claims, is for the existence of the other two sorts. The other two are the theoretical minimum and the minimum perceivable quantity. According to Furley, the theoretical minimum is the smallest quantity that can be conceived or thought about or imagined. Furley also considers Epicurus' rejection of infinite divisibility in the context of the theories of Aristotle, Zeno of Elea, and other predecessors of Epicurus.

It does seem clear that Epicurus assumes the existence of the physical minimum (the atom) in this argument; for he has asserted their existence in section 39. It also seems clear that Epicurus is concerned in sections 56-59 to account for differences between entities of the same material composition, the atoms, in terms of differences in their sizes. Epicurus' empiricism leads him not only to reject infinite divisibility (since infinite divisibility is not empirically possible or empirically intelligible), but also to use the notion of a smallest part, a notion derived from sense-perception, to account for the sizes of the atoms.

in number.[1] In the first argument Lucretius explains that the shapes and sizes of the atoms are related to each other. He argues that since variation in shape is owing to the arrangements of the least parts, infinite variety in shape would necessitate that there be infinitely large atoms, which there cannot be. Indeed, atoms cannot even be so large as to be perceivable.[2] In his second argument Lucretius says, in effect, that the limits in the varieties of things (compounds of atoms) indicates that there is also a limit in the varieties of shapes of atoms (which are responsible for the different qualities among the compound bodies). And he argues that if there were not limits in the varieties of shapes of atoms neither would there be qualitative limits to the compound bodies. There would be no best, nor any most beautiful, nor a hottest, nor a coldest, and the like.[3]

Summing up the discussion thus far: Both the atoms and the void are infinite; the void is infinite in extent, the atoms in number. There is an incomprehensible but not infinite number of different shapes of atoms, and an infinite number of atoms of each shape. That atoms cannot have an infinite number of shapes is owing to the fact that shape is directly related to size (measured by least parts) and there are limits on the size of atoms. No atom can be smaller than what is measured by one least part, and no atom can be so large as to be perceivable. The impenetrability of the atoms has been noted both with

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[1]De Rerum Natura (hereinafter referred to as DRN) II, 478-521. All translations of DRN used in this dissertation are from Titi Lucreti Cari, De Rerum Natura, edited with Prolegomena, Critical Apparatus, and Commentary by Cyril Bailey (3 vols.; Oxford: Clarendon Press, 1947).

[2]DRN II, 478-99. [3]DRN II, 500-521.

respect to their being the unchangeable roots of nature (they must be solid, indivisible, and unalterable; otherwise they would not be indestructible) and also with respect to their being measurable in terms of their least parts; that is, the least parts of atoms are not separable individual existences (it is not possible that the least parts of atoms could themselves come together with motion).

It remains to consider the motion of atoms as well as their weight. Epicurus finds it sufficient to mention in the letter to Herodotus that atoms have weight. And in this context he point out again their impenetrability; he says that the atoms must remain solid and indissoluble in the dissolution of compounds.[1] In one discussion of motion Epicurus again mentions the weight of the atoms. He says that there are differences in the weights of atoms (some are heavier, others small and light) and that the downwards movement of the atoms is owing to their having weight.[2] In considering the motion of the atoms it will become clear that the weight of an atom does not affect the speed of its motion; all atoms, irrespective of weight, move with equal speed.[3] On the other hand, it is owing to its weight that an atom has a natural tendency to move downwards.[4]

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[1]H, sec. 54. [2]H, sec. 61. [3]Ibid.

[4]It is clear, and it has been noted many times by many others, that if space is infinitely extended, then directions are relative; there is no absolute up or down. Epicurus does speak of the downward motion of the atoms. One must suppose that he was either confused or that he was speaking analogically. It would have been more appropriate for him to have said that an atom moves through the void, in whatever direction it happens to be going at any time, because of its weight, and that it changes directions because of a blow received from another atom. What follows will make this clear.

In the section of the letter to Herodotus where Epicurus introduces the motions of the atoms,[1] he makes the following points: (1) The motions of the atoms have "no beginnings since the atoms and the void are the cause."[2] (2) The void offers no resistance to the atoms.[3] (3) "The atoms themselves, by their hardness, offer resistance to each other, when they collide, causing them to recoil, thus changing direction."[4]

It has been pointed out earlier in this chapter that Epicurus makes reference to the weight of the atoms in his discussion of their motions. This discussion begins at section 61 in the letter to Herodotus and continues through section 62. Bailey has inserted a part of section 46 after section 61, and a part of section 47 after section 62.[5] The following discussion will be of the text so arranged. (1) "The atoms move with equal speed, when they are borne onwards through the void, nothing colliding with them."[6] (2) Neither weight nor direction alters the speed of atoms. All atoms move at an equal speed.[7] (3) The

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[1]H, secs. 43-44.

[2]H, sec. 44: "ἀρχὴ δὲ τούτων οὐκ ἔστιν, αἰτίων τῶν ἀτόμων οὐσῶν καὶ τοῦ κενοῦ."

[3]H, sec. 44.

[4]H, sec. 44: "ἥ τε στερεότης ἡ ὑπάρχουσα αὐταῖς κατὰ τὴν συγκρουσιν τὸν ἀποπαλμὸν ποιεῖ, ἐφ' ὅσσον ἂν ἡ περιπλοκὴ τὴν ἀποκατάστασιν ἐκ τῆς συγκρούσεως διδῷ."

[5]See Bailey, pp. 190, 216, 219, 223. Bailey explains that the subject matter of parts of 46 and 47 (those referred to as 46b and 47b) belong in a discussion of the motions of the atoms.

[6]H, sec. 61: "καὶ μὴν καὶ ἰσοταχεῖς ἀναγκαῖον τὰς ἀτόμους εἶναι, ὅταν διὰ τοῦ κενοῦ εἰσφέρωνται μηθενὸς ἀντικόπτοντος."

[7]H, sec. 61.

speed of the atom is as "quick as thought".[1] " . . . [T]he motion of any atom through the void, when it takes place without meeting any resisting bodies, completes every comprehensible distance in an inconceivable amount of time."[2] (4) Even within a compound body all atoms move with an equal speed.[3] (5) And within a compound body the atoms are actually moving in different directions, jostling one against another, though the compound itself may be at rest or moving in one way or another depending upon the effect of the internal collisions of the atoms.[4]

In an early section of the letter to Herodotus, Epicurus introduces the motion of the atoms in a general way, saying that the atoms move continuously for all time.[5] Bailey and Bignone hold that there is a lacuna, at this point in the letter, in which some mention must have been made of the all-important Epicurean notion of the "swerve" as well as, perhaps, of the natural downward motion of the atoms.[6] Indeed, in none of the extant writings of Epicurus does one find the swerve explained; though he does hold that the features of

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[1] Ibid.

[2] H, sec. 46b: " . . . ἡ διὰ τοῦ κενοῦ φορὰ κατὰ μηδεμίαν ἀπάντησιν τῶν ἀντικοψόντων γινομένη πᾶν μῆκος περιληπτὸν ἐν ἀπεριλήπτῳ χρόνῳ συντελεῖ."

[3] H, sec. 62.

[4] I consider the motions of the atoms within compound bodies infra, pp. 38-40 and 55-57.

[5] H, secs. 43-44.

[6] Bailey says that there is a lacuna in the beginning of section 43. Here, he suggests, Epicurus spoke of the two primary causes of atomic motion: the downward movement and the swerve.

nature that Lucretius says are owing to the swerve, that is, chance and freedom of the will, do exist.[1]

Since Lucretius does attempt to explain chance and freedom of the will in terms of the swerve, let us consider his account. The swerve is a slight deviation in the straight downward path of the atoms, a deviation that can be explained by no external force. It is the first cause of collisions of the atoms and, thus, of their eventually combining together to form compound bodies. And, finally it is also owing to the swerve that the soul engages in free choices, is not mechanically determined.

Concerning the swerve, Lucretius writes:

> Herein I would fain that you should learn this too, that when first-bodies are being carried downwards straight through the void by their own weight, at times quite undetermined and at undetermined spots they will push a little from their paths: yet only just so much as you could call a change of trend. But if they were not used to swerve, all things would fall downwards through the deep void like drops of rain, nor could collision come to be, nor a blow brought to pass for the first-beginnings: so nature would never have brought ought to being.[2]

Nature brings things (compounds of atoms) into being by means of collisions of the atoms. The collisions could not have occurred were it not for the swerve of the atoms, since, as Lucretius goes on to explain, all atoms move through the completely unresisting void at an equal rate of speed. Because all atoms move at an equal rate of speed, it could not be the case that collisions of the atoms are owing to the heavier atoms falling faster and striking the lighter atoms from above.[3] Thus, it is only by one atom's swerving from its original

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[1]M, sec. 133. [2]DRN II, 216-225. [3]DRN II, 225-250.

path into the path of another that the one could collide with the other.

Heavier compound bodies fall faster than lighter ones because the air or water through which they move offers resistance. The void offers no resistance to the atoms. Thus every atom, whatever its weight, moves with a speed equal to that of every other.[1]

The swerve is also responsible for free will, according to Lucretius--and, we must suppose, according to Epicurus as well. For Epicurus does hold that a man is free to make choices.[2] Further, he holds that the soul is a compound of atoms. So if it were not the case that soul atoms swerve sometimes (or perform some other undetermined act), there would be no non-determined activities of the soul.

Lucretius asks how it is that the acts of the soul are not determined. He answers:

> But that the very mind feels not some necessity within in doing all things, and is not constrained like a conquered thing to bear and suffer, this is brought about by the tiny swerve of the first-beginnings in no determined direction of place and at no determined time.[3]

I have considered in this chapter the nature of Epicurean atoms and the void. There are some qualities which atoms do not possess. Epicurus says, concerning this point:

> One must suppose that atoms do not have imposed upon them even one of the qualities of perceivable things except shape and size and weight and whatever of necessity accompanies shape. For every perceivable quality changes; but the atoms never change, since it is necessary for something to remain constant in the

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[1] Ibid. and H, sec. 61. [2] M, secs. 133 and 135.

[3] DRN II, 289-93. I shall consider the free will of the soul infra, Chapter VII, pp. 165-174.

> dissolution of compounds, something solid and indissoluble that makes changes not into the non-existent, but by means of the shifting of some things, and the addition and departure of some things. For this reason it is necessary for the bodies that shift their positions [that is, the atoms] to be imperishable and not to possess parts and configurations as perceivable things do; rather, the atoms have a nature peculiar to themselves; and this nature remains constant.[1]

In order to account for the fact that the atoms do not possess color but do possess shape, to account for the view that shape is a constant property of a body while other qualities (such as color, odor, and the like) are not constant,[2] Epicurus says the following, arguing from what is true of the perceivable to what is true of the imperceptible: "For even in things changing their forms for us that is, perceivable things by means of the removal of something, the shape remains present in them: but the qualities do not remain in the thing which changes, as shape does, but from the nature of the entire body are set free."[3] Epicurus finds shape to be a basic property which remains fundamentally the same in a changing perceivable object. The other qualities (color,

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[1]H, sec. 54: "καὶ μὴν καὶ τὰς ἀτόμους νομιστέον μηδενίαν ποιότητα τῶν φαινομένων προσφέρεσθαι πλὴν σχήματος καὶ βάρους καὶ μεγέθους καὶ ὅσα ἐξ ἀνάγκης σχήματι συμφυῆ ἐστι. ποιότης γὰρ πᾶσα μεταβάλλει· αἱ δὲ ἄτομοι οὐδὲν μεταβάλλουσιν, ἐπειδήπερ δεῖ τι ὑπομένειν ἐν ταῖς διαλύσεσι τῶν συγκρίσεων στερεὸν καὶ ἀδιάλυτον, ὃ τὰς μεταβολὰς οὐκ εἰς τὸ μὴ ὂν ποιήσεται οὐδ' ἐκ τοῦ μὴ ὄντος, ἀλλὰ κατὰ μεταθέσεις ⟨τινῶν⟩, τινῶν δὲ καὶ προσόδους καὶ ἀφόδους. ὅθεν ἀναγκαῖον τὰ μὲν μετατιθέμενα ἄφθαρτα εἶναι καὶ τὴν τοῦ μεταβάλλοντος φύσιν οὐκ ἔχοντα, ὄγκους δὲ καὶ σχηματισμοὺς ἰδίους τοῦτο γὰρ καὶ ἀναγκαῖον ὑπομένειν."

[2]That the atoms do possess some attributes and not others is of great importance in the consideration of the properties and accidents of compound bodies (see infra, Chapter V, pp. 112-13).

[3]H, sec. 55: "καὶ γὰρ ἐν τοῖς παρ' ἡμῖν μετασχηματιζομένοις κατὰ τὴν περιαίρεσιν τὸ σχῆμα ἐνυπάρχον λαμβάνεται, αἱ δὲ ποιότητες οὐκ ἐνυπάρχουσαι ἐν τῷ μεταβάλλοντι, ὥσπερ ἐκεῖνο καταλείπεται, ἀλλ' ἐξ ὅλου τοῦ σώματος ἀπολλύμεναι."

odor, and the like) may completely disappear from the body or leave and be replaced by others. But shape is simply altered by change in position or arrival or departure of parts of the compound body. By analogy, then, the atoms cannot have the sensible qualities, since such qualities do not remain constant. But shape is the sort of thing that cannot disappear from a body. Of course, the atom's shape cannot change at all, since the atom's parts (least parts) are not able to come together by motion, nor depart, nor move at all within the atom.

Without explaining how, at this point Epicurus assures us that the atoms can account for the changes in compound bodies, and, again, that atoms must exist if all is not to be destroyed into the non-existent. He says: "Now these things that remain [the atoms] are sufficient to make the differences in compound bodies, since it is necessary that something remain and ⟨not⟩ be destroyed into non-being."[1]

Insofar as possible the discussion of this chapter has been confined to the nature of the ultimate things in nature, atoms and the void. The void is infinite in extension, intangible, offers no resistance to the atoms that course through it. The atoms are infinite in number and possess the qualities of size, shape, and weight. From these facts--(1) that atoms have least parts, (2) that they are imperceptible, and (3) that their qualities of size and shape are relative to each other--it may be deduced that there are upper and lower limits on the size of atoms and a finite though incomprehensible number

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[1]H, sec. 55: "ἱκανὰ οὖν τὰ ὑπολειπόμενα ταῦτα τὰς τῶν συγκρίσεων διαφορὰς ποιεῖν, ἐπειδή περ ὑπολείπεσθαί γέ τινα ἀναγκαῖον καὶ ⟨μὴ⟩ εἰς τὸ μὴ ὂν φθείρεσθαι."

of varieties of shapes and sizes of atoms. There are, however, an infinite number of atoms of each shape.[1] Atoms are completely solid and indissoluble, having no void within them; and they are eternally in motion. The swerve of the atoms is the cause of collisions between atoms that ultimately constitute compound bodies. The swerve is responsible also for free will.

The atoms do not possess the sensible qualities--such as color, odor, flavor, sound, and temperature--but are, nonetheless, responsible for such qualities in compound bodies. How they are so responsible is one of the things to be considered in this dissertation. However, since the perceivable qualities are qualities of compound bodies, the next topic in the order of exposition is that of compound bodies.

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[1]H, sec. 42.

CHAPTER III

COMPOUND BODIES

Epicurus held that " . . . the whole [universe] is <bodies and space>,"[1] and that " . . . among bodies some are compounds, and others are those of which compounds are formed."[2] In the previous chapter I considered the bodies out of which compounds are formed; I shall consider in the present chapter the compound bodies themselves.

To begin examining the nature of compound bodies, I shall note the differences between these bodies and the atoms. A first difference may be noted with respect to the relationship between the void and these two sorts of bodies. "An atom is a hard body free from any admixture of void . . . ,"[3] whereas compound bodies are formed out of atoms and the void.[4] There must be void along with atoms in compound bodies for at least two reasons: (1) Atoms move in the void and atoms are always in motion,[5] even within compound bodies; so there must be

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[1]H, sec. 39: " . . . το πᾶν ἐστι ⟨σώματα καὶ τόπος⟩." See Bailey, p. 181, for the justification of the insertion.

[2]H, sec. 40: " . . . τῶν σωμάτων τὰ μέν ἐστι συγκρίσεις, τὰ δ' ἐξ ὧν αἱ συγκρίσεις πεποίηνται."

[3]Fragment 16 from Bailey, p. 125: "Ἄτομόν ἐστι σῶμα στερεὸν ἀμέτοχον κενοῦ παρεμπλοκῆς· . . . ."

[4]H, secs. 42-44; DRN II, 100-108. [5]H, secs. 43-44.

void in compound bodies. (2) It is owing to the atom's being completely solid and impenetrable,[1] its smallest part being incapable of motion,[2] that the atom does not change[3] and, of course, does not suffer destruction. Correlatively, changeable things are not solid, do contain void, and are composed of smaller parts that move.[4] The compounds suffer change and destruction, the ultimate realities remain.[5]

A second difference may be noted with respect to perceivability. The atoms are not perceivable, but compounds of atoms may be perceivable.[6]

A third difference may be noted with respect to qualities. Every perceivable quality changes; but atoms do not change at all. Thus the atoms do not possess any of the qualities belonging to perceivable things, except shape, weight, and size. Weight and size necessarily go along with shape--these three being the necessary concomitants of corporeal objects.[7] Although for vision, some perceivable color goes along with shape, it does not go along with shape absolutely; and color changes; so it cannot be a quality of an atom. Although for touch, some perceivable temperature and texture go along with shape, they do not go along with shape absolutely; these are changeable qualities, too, and so cannot belong to atoms. Atoms are

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[1]H, sec. 41. [2]H, sec. 59. [3]H, sec. 41.

[4]H, secs. 43, 48, 62, and 47b. [5]H, sec. 41.

[6]Nothing seems to contradict the notion that there are compounds of atoms that are too small to be perceivable. Atoms themselves, of course, are never large enough to be perceived. See infra, Chapter V, pp. 106-108.

[7]H, sec. 54.

unchanging, imperceptible entities; compounds of atoms are changing entities, and they may be perceivable. The qualities of atoms do not change, but the qualities of compounds do.

Having noted some differences between atoms and compounds of atoms, I shall next consider Epicurus' position on the relations between atoms and compounds of atoms. In considering these relations I am laying the groundwork for an explanation of how the perceivable attributes of compound bodies come about.

Epicurus holds that a compound body is an entanglement of atoms. That is to say, it is not simply that some number of atoms chance to be near one another in space which accounts for a compound body, but rather that some number of atoms are near one another in space in a certain relationship which accounts for a compound body. Epicurus' description of the motions of atoms in a compound body demonstrates this point. Atoms that are in compounds are colliding with one another in various ways: (1) They collide and then " . . . separate a long distance from one another . . . ."[1] (2) They collide and " . . . recoil and recoil (continuing to vibrate or to strike each other), whenever they chance to be turned aside by means of entanglement . . . ."[2] (3) They " . . . recoil and recoil whenever they chance to be enclosed by an entanglement."[3]

Lucretius considers the perceivable results of entanglement.

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[1]H, sec. 43: " . . . εἰς μακρὰν ἀπ' ἀλλήλων διιστάμεναι . . ."

[2]H, sec. 43: " . . . αἱ δὲ αὖ τὸν παλμὸν ἴσχουσιν, ὅταν τύχωσι τῇ περιπλοκῇ κεκλιμέναι . . ."

[3]H, sec. 43: " . . . ἢ στεγαζόμεναι παρὰ τῶν πλεκτικῶν."

He says:

> And all those which are driven together in a more close-packed union leap back but a little space apart, entangled by their own close-locking shapes, these make the strong roots of rock and the brute bulk of iron and all other things of their kind. Of the rest which wander through the great void, a few leap far apart, and recoil afar with great spaces between; these supply for us thin air and the bright light of the sun.[1]

These interlacings, whether tight or loose, Lucretius compares with the atoms not entangled with others: "Many, moreover, wander on through the great void, which have been cast back from the unions of things, nor have they anywhere else availed to be taken into them and link on their movements."[2]

These passages from Epicurus and Lucretius[3] indicate that the relation between the atoms which combine to form compound bodies is a stronger one than simply proximity in the void. For, on the one hand, atoms may "recoil afar with great spaces between," and still be in a combination of atoms, which is for us a perceivable body (thin air or the bright light of the sun). On the other hand, an atom may be in close proximity to a combination of atoms and yet not be a part of that combination, when it has been "cast back from the unions of things" and when it fails to "link its movements" with those of the other atoms. The atoms of compound bodies, thus, are somehow entangled with each other, and this entanglement is, perhaps, explained in terms of an organization of the combining atoms and a harmony, or sympathy, of the movements of the combining atoms. For the atoms "cast

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[1]DRN II, 100-108. [2]DRN II, 109-111.

[3]Those noted supra, page 38 and this page.

back" have not been taken in and have not linked their movements with other atoms.

In describing the "close-packed union" of solid compounds, Lucretius says the atoms are "entangled by their own close-locking shapes." A few lines further in the poem, when speaking of the different effects the different shapes of the atoms have, he says, "Or, again, things which seem to us hard and compact, these, it must needs be, are made of particles more hooked to one another, and are held together close-fastened at their roots, as it were by branching particles."[1] These ways of expressing the close-union of atoms have almost the sense of a static interlocking of atoms rather than of a constant recoiling of atoms in a small space. However, given the fundamental position of Epicurus to which Lucretius adheres, namely, that the atoms are always in motion,[2] it must be supposed that he means, not that the atoms lock together and cease to move individually but, that the atoms lend themselves to moving with respect to each other in very short spaces, creating, by a vibration, a hard body.

Fluids, according to Lucretius, are made of "smooth round particles";[3] thus they flow, as, say, a handful of poppyseeds will "flow" from one's hand.[4] Such atoms, by their shapes, lend themselves to the combinations which create the more moveable, bendable, dispersible fluids. Of fluids with a bitter taste, he says, they contain among the smooth round particles "some rugged painful bodies";[5] the

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[1]DRN II, 444-46. [2]See DRN II, 95-99; H, sec. 43.

[3]DRN II, 466-67. [4]DRN II, 452-55. [5]DRN II, 467-68.

dominant atoms are round and smooth, but a few rugged, painful bodies join the compound and bring about a change, not of its basic qualities associated with fluidity, but of its taste.

In any conglomerate of atoms, its solid, fluid, or gaseous (thin air, bright light) nature would seem to depend both on the shapes of the dominant atoms and on their relationships (whether they recoil short or long distances); and the recoiling relationships, at least in part, seem to be dependent upon the shapes of the atoms. For example, it would seem that if the dominant atoms are smooth and round, it might be the case that they could not form so close-packed a union as those with "close-locking shapes" could. In addition, what Lucretius states in this section of the poem[1] indicates that the secondary qualities--for example, the taste, odor, color, sound, and temperature--are dependent mainly upon the shapes of some of the atoms in the combination rather than upon the configuration of the atoms.

My explanation, offered above, of the differences between the unions of atoms that account for solids, those that account for liquids, and those that account for gases conflicts with the view offered by Bailey.[2] Bailey suggests that

> Epicurus in fact distinguished between three kinds of compound bodies, each with its own form of structure, (1) those in which the atoms are at considerable distances from one another and the texture is very loose, roughly, the 'gases' (covering the [traditional] elements 'air' and 'fire'); (2) those in which the atoms are in a closer union, but require to be kept together by a 'shell', roughly, the liquids ('water')' (3) those in which the atoms are held together by their own close-interlocking, roughly, the solids ('earth').[3]

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[1] Ibid. [2] Atomists, pp. 340-41. [3] Ibid., p. 341.

Bailey appeals, on the one hand, to the passage in Lucretius' poem, previously noted in this dissertation,[1] in which the distinction is made between solids and gases by means of the intervals between atoms or the lengths of the recoilings. On the other hand, he appeals to the passage in the letter to Herodotus in which Epicurus distinguishes between three types of compounds:[2] (1) those in which the atoms recoil great distances, (2) those in which the atoms are entangled and recoil back and forth short distances, (3) those in which the atoms are enclosed by atoms interlaced around them.[3] Union (3) (above) is what Bailey interprets as being the constitution of liquids. It is on this point that my disagreement with Bailey arises.[4] I suggest that, since sense-experience indicates that fluids stand between solids and gases in density,[5] they can be explained as an entanglement in which the atoms neither recoil so far as they do in gases nor vibrate so closely as they do in solids. Since a gas can be explained in terms of recoiling atoms needing nothing more to account for its unity, it would seem just as likely that a fluid could be explained in terms of an even closer recoiling of atoms than that of a gas, needing nothing more to account for its unity. Further, it seems

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[1]DRN II, 98-108, supra, pp. 39 and 40.

[2]H, sec. 43. See, also, supra, p. 38, notes 1,2, and 3.

[3]The term translated "enclosed" is "στεγαζόμεναι."

[4]Hicks in his translation (Loeb edition) and Geer (in Library of Liberal Arts) also regard fluids as being explained in the way that Bailey explains them.

[5]Ice is not, in fact, more dense than water, but seems so in sense-experience (Epicurus' criterion of truth).

necessary to emphasize the implication of Lucretius' comments on this matter, that is, that the shapes of the combining atoms are, at least in part, a deciding factor in the sort of entanglement that will exist.

In support of his position Bailey points out that the term that is translated "enclosed" above[1] is repeated in section 65[2] and in section 66[3] of the letter to Herodotus. In these two sections the term is used to mean the (human) body, that which encases the soul. The soul is a combination of atoms which must be enclosed by the body, if the soul is to retain its unity.[4] One reason why Bailey's interpretation must be questioned is that Lucretius does not explain liquids in this way and, also, that Epicurus does not do so either, explicitly, but does explicitly so explain the soul.

The soul is, on Epicurus' account, a separate material thing encased in the body. At death the soul, as it were, flees its casing and, in so doing, disperses and loses its unity, though usually the casing continues to maintain its unity for a while as a union of atoms, a perceivable compound, now a dead body.

Bailey supposes that a liquid is encased as the soul is encased. But the analogy does not seem very clear. The soul must be contained in the sense of being completely enclosed in, or held together by, the body, whereas the wine in the cup need not be entirely enclosed by the cup, nor does it depend upon that container for its

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[1]See supra, p. 42, note 3. The term is "στεγαζόμεναι."

[2]"στεγάζοντος" [3]"στεγάζοντα"

[4]I consider the enclosing of the soul infra, pp. 136-37.

unity. When the soul leaves the body (its casing), it loses its unity; it is no longer a soul because the atoms disperse. The wine would not necessarily lose its identity and unity were it to spill onto the table. The evidence of the text does not lead one to deduce that Epicurus held that the compounds enclosed in entanglements of atoms[1] are liquids. Indeed, he might have meant souls in this case[2] as he did in sections 65 and 66 of the letter to Herodotus.

Bailey supposes that Epicurus was satisfying the traditional classification of elements into fire, earth, air, and water. But if Epicurus were doing this, why would he class fire and air together as Bailey suggests he does? Further, it does not seem that Epicurus felt bound to conform to his predecessors' categories and ways of thought. Tradition has it[3] that Epicurus did not acknowledge even his debt to his teachers, and certainly not to his predecessors. And just as, because he thought that dialectic was misleading,[4] he did not feel obliged to conform his view concerning method to those of his predecessors, so also, it seems that he would not feel obliged to conform his view on the ultimate realities to those of other philosophers. Even were we to disregard the admittedly questionable evidence concerning Epicurus' attitude towards other philosophers,[5] it would seem, nonetheless, that since the atoms are the elements, the four traditional elements would be precluded by atomism and need not be a matter

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[1]H, sec. 43: "στεγαζόμεναι παρὰ τῶν πλεκτικῶν." [2]Ibid.

[3]Life, secs. 4 and 13. Epicurus is said to have taught Democritus' atomism and Aristippus' theory of pleasure as his own.

[4]Life, sec. 31. [5]Life, secs. 8 and 9.

of concern at all.

But, it is more important to note that, from the point of view of sense-experience, liquids stand between gases and solids in respect of degrees of density and organization. A gas, although having a very loose structure (looser than that of a liquid), does not need a casing to have unity, to be a thing, a gas. The soul does need such a casing because it is made of the finest atoms,[1] finer even than those of gases and far finer than those of liquids.'

Lucretius not only affirms that the soul is "very fine in texture, and made and formed of very tiny particles,"[2] but when he goes on in his explication to compare it to such liquids as water and honey he does not describe these liquids as encased; but, rather, he compares the soul to liquids in order to show how smooth and round and mobile the atoms of the soul must be, even more than the atoms of liquids. He says:

> For so water moves and oscillates at the slightest impulse, seeing it is formed of little particles, quick to roll. But, on the other hand, the nature of honey is more close-packed, its fluid more sluggish, and its movement more hesitating; for the whole mass of its matter clings more together, because, we may be sure, it is not formed of bodies so smooth, nor so fine and round. For a light trembling breath can constrain a high heap of poppyseed to scatter from top to bottom before your eyes: but, on the other hand, a pile of stones or corn ears it can by no means separate. Therefore, in proportion as bodies are tinier and smoother, so they are fitted with nimbleness. But, on the other hand, all things that are found to be of greater weight or more spiky, the more firm set are they. Now, therefore, since the nature of the mind has been found nimble beyond the rest, it must needs be formed of bodies exceeding small and smooth and round.[3]

The fluidity of water and honey seems to be owing to the

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[1]H, sec. 63. [2]DRN III. 179-80. [3]DRN III, 191-205.

shapes of the atoms, on Lucretius' account above; indeed the greater or lesser viscosity of a fluid seems to be owing, in each case, to the shapes of the atoms. If Lucretius were aware that souls and fluids were similar with respect to being encased, would he not have mentioned this similarity, particularly when he was appealing to the qualities of water and its atoms to explain the soul and its atoms?

Although part of the soul's composition is like wind (a gas) with heat in it, yet it has also a part finer than that.[1] Further, the soul possesses the chief cause of sensation but must be enclosed to so perform.[2] There are two reasons, then, why the soul must be enclosed: (1) because its particles are so fine that they cannot be organized into a compound without being enclosed, and (2) because sensation occurs only when the soul atoms are enclosed in the body. Again, liquids are not even so fine as gases (which need not be encased to exist), and the soul is finer than any gas. Also liquids do not, evidently, have sensation. Liquids need not be encased, then, as the soul needs to be encased.

There is no evidence that Epicurus meant to distinguish liquids as encased atoms. Lucretius does not support the contention that Epicurus meant to classify liquids in this way. And although, according to Bailey, a liquid is a very special configuration of atoms, when Lucretius describes the configurations of atoms of perceivable bodies and gives examples of such bodies, he does not make mention of this very special configuration. But if a liquid were a special case, such

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[1] H, sec. 63. [2] H, secs. 64-65.

as Bailey thinks it is, Lucretius undoubtedly would have taken pains to explain it.

Lucretius seems, rather, to point to two extremes, bright light and the brute bulk of iron, as though one could understand all that ranges between these two extremes (water and honey, for example) without further explanation.[1] And, Lucretius, also, carefully notes the differences owing to the shapes of the atoms in the configurations,[2] as though the shapes of atoms were fully as important as their configuration in the determination of the qualities of the compound body.

It would seem that Bailey, on the other hand, is supposing that Epicurus would account for the perceivable qualities of compound bodies principally in terms of the configurations of the combining atoms. He understands Epicurus to be distinguishing fluids from solids and gases by means of a special configuration of the atoms, paying little heed to the role played by the shapes of the atoms. More likely it is owing to the shapes of the atoms in addition to the configurations of the combined atoms that a compound body has the properties that it does have.[3] Lucretius writes: "Do you not see now, what I said but a little while ago, that it is of very great matter often with what others those same first-beginnings are bound up, and in what position, and what movements they mutually give and receive, and that the same a little changed with one another can create beams or flames?"[4]

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[1]See DRN II, 100-108. [2]DRN II, 444-77.

[3]H, sec. 42; DRN II, 333-477. [4]DRN I, 907-12.

According to this account, atoms of a certain kind could make beams or flames depending on their arrangement. The two perceivable compounds, beams and flames, are very similar in nature. The similarity here is owing to the presence of the same sorts of atoms; a compound very different from beams or flames would be a compound of atoms that are very different from those in beams or flames.

Although Bailey does not deny that the kinds (the shapes) of atoms involved in a compound body determine the perceivable qualities of that body, he seems to think that the configuration of the atoms is of far greater significance in the determination of the compound body's qualities.[1] For example, Bailey says, giving as a reference section 54 of the letter to Herodotus, "All the qualities of things then are due to the shape and position of the atoms which go to form them, and all change of quality is due to change in that position . . . ."[2] However, Epicurus says, in that very section, not only that changes are effected by change in position but also that they are effected by the addition or departure of atoms.[3] The change of qualities is owing to addition or departure of atoms because the differences between the atoms adding to and those departing from the compound body are responsible for the changes that occur in the qualities of the compound body.

Bailey emphasizes incorrectly the part the organization of the atoms plays in determining the qualities of the object. To do this, I think, obscures, to some extent, what I see as a problem in Epicurus'

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[1]See Atomists, pp. 353-57.

[2]Atomists, p. 355 (emphasis mine). [3]See H, sec. 54, line 8.

position, namely, that atoms having various shapes and sizes, but lacking sense qualities, produce in compounds of atoms various sense-qualities (some shapes and sizes producing one quality, some another) simply in virtue of being organized together. Epicurus assumes that colors are real but his account fails utterly to demonstrate that this can be true. This is a serious failing in Epicurus' system because he supports his position with the evidence of sense-perception; but, not only does Epicurus never explain what the relation between perceivable qualities and atoms is, neither can one conceive of an adequate atomistic explanation of this relationship. Lastly, in the interest of correctly explicating Epicurus' position, one must point out that the attributes of the atoms are of the greatest importance in determining what sort of organization they can form as well as what attributes the organization as a whole will have.

Bailey argues quite correctly, on the one hand, that the configuration of the atoms accounts for the unity and identity of the compound body. However, he wrongly extends this explanation too far in using it to account for the qualities of compound bodies and, in particular, in using it in the way in which he does to account for fluidity. He emphasizes the importance of the configuration of the atoms and minimizes the importance of the shapes of the atoms in his defense of Epicurus' position against an ancient critic of Atomism, Plutarch. Plutarch argues, on the one hand, that since the atoms are always in motion in a compound body, the body can have no unity and identity;[1]

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[1]See Hermannus Usener (ed.), Epicurea (Leipzig, 1887) (hereinafter referred to as Usener), #286.

and, on the other, that since the atoms have no perceivable qualities, neither can the compounds of atoms have them.[1]

Bailey's response to the first objection is that "the compound body is more than an aggregate of atoms--it is an 'organism'. . . or, as Lucretius so constantly and expressively calls it, a concilium: There is about it a real cohesion, which gives it a unity of its own and marks it off from other atoms and atomic compounds."[2] Bailey goes on to explain that "the harmony of movement [of the atoms in a compound body] . . . constitutes the unity of the 'thing' and distinguishes it from external things and independent atoms."[3] Bailey deduces that there is a "harmony of movement" from Lucretius' remark that some atoms cannot link their movements with those of a compound body while others can.[4] Bailey thinks that atoms which are "sympathetic" in their motions to the "internal harmony of movement" in the compound may link on their movements, join the compound.[5]

One must acknowledge the correctness of Bailey's response to Plutarch's first criticism. A compound body is more than an aggregate of atoms that have spatial proximity. Atoms in a compound body are in a special configuration, their relative positions are of importance to the nature and the existence of the compound body; and, indeed, because the atoms are constantly in motion, not only the relative positions of the atoms, but also how they move with respect to each other is of importance. How the atoms move with respect to each other might

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[1]Usener, #288. [2]Atomists, p. 347. [3]Ibid., p. 348.

[4]Ibid. and DRN II, 109-111. [5]Atomists, p. 348.

be called a harmony of motion. In addition, because a compound body does remain more or less the same for some period of time, the motions of the combining atoms must be such that the position of one moving atom is replaced by another moving atom so that the configuration is more or less constant. But, as Epicurus tells us, not only are the atoms moving within the compound body, also some are being added on, others are departing.[1] Or, as Epicurus says when explaining the emanations for perception,[2] "For, indeed, the flow from the surface of bodies is continuous, it is not distinguished in respect of diminution because of filling up again . . . ." [3] Thus, from this one must deduce that it is not the configuration of certain atoms nor the harmony of motion of certain atoms but the configuration and the harmony of motion themselves, and the kind of atoms so ordered, though not any atoms in particular, that are the causes of the unity and identity of any compound body. In other words, it is the form, so to speak, not the matter, of a compound body that is the cause of its nature and existence; for while the matter changes (some atoms depart, others join the compound), the atoms must be of a certain sort and moving in a certain way, if they are to join the compound.

Bailey's response to the second criticism of Plutarch[4] is:

> . . . the complex body is more than an aggregate of atoms: the close relation between them, which is established by the 'interlacing' and the 'harmony of motion' constitutes it a

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[1] H, sec. 54. [2] See infra, Chapter V.

[3] H, sec. 48: "καὶ γὰρ ῥεῦσις ἀπὸ τῶν σωμάτων τοῦ ἐπιπολῆς συνεχής, οὐκ ἐπίδηλος τῇ μειώσει διὰ τὴν ἀνταναπλήρωσιν . . . ."

[4] See supra, p. 50.

> new entity. And as such it acquires new characteristics and faculties: the motion of the whole body is different from the sum of the motions of its atoms, the spontaneous unconscious 'swerve' of the individual atom becomes in the complex of the soul the conscious act of volition. And so it is with qualities; the new entity of the compound has in fact the colour, taste, sound, smell, and heat, no one of which can belong to the atoms as individual particles. Nor are these qualities a delusion, or in any sense unreal or less real than the properties of the atoms. For the complex body perceived by sense is as real as the atom. Indeed the whole form of the argument as presented by Plutarch is to the Epicurean perverse. Epicurus starts, as has been pointed out often, from the reality of sense-perceptions: the most certain thing in the world is their reality and truth. They tell us of bodies with these qualities: the qualities therefore are real and true . . . . Epicurus in fact conceives, as it were, of two interrelated worlds, the world of sense-objects known immediately in perception and the world of atoms, known by thought, inferred from the world of sense, but not always on direct analogy. There is truth and reality in both worlds, and the world of sense is the 'outward expression' . . . of the unseen world of atoms. The transition from the atoms without quality to things with quality, so far from being unthinkable, is a necessary conclusion from the data of sense-perception and the inference of the mind acting on the principles of the Canonice.[1]

In this second explanation Bailey ignores the contribution that the shapes of the atoms make in the formation of qualities of a compound body. For the texts indicate, as has been demonstrated in this chapter, (1) that the qualities of the various atoms determine in an important way the sorts of configurations various atoms can make, and (2) that the qualities of the atoms are significantly responsible for the qualities of the compounds. But, one can no more explain the ontological status of the qualities of compound bodies in terms of the shapes of the atoms than one can in terms of their arrangements.[2] In

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[1]Atomists, pp. 356-57.

[2]Dr. Feaver has suggested that these new qualities (the qualities of compound bodies) are emergent. If by "emergent" quality one

the succeeding chapters I shall demonstrate that the second criticism of Plutarch (noted above) cannot be adequately met by either of these explanations nor by both taken together.

The purpose of this chapter has been to derive some details concerning the nature of compound bodies from Epicurus' basic atomistic principles. It has been discovered that this materialist must base the unity and identity of the compound body upon formal relationships among the constantly changing atoms that are present in that material body. The significance of this discovery is that this materialistic account actually requires support of a formal account in order to explain the nature of compound bodies. In this small way, then, the materialism is inadequate. However, more serious deficiencies in Epicurus' position will be domonstrated in the following chapters. The necessity for a formal rather than a material explanation of the unity and nature of compound bodies is a small sign of the problems to come.

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means a quality which does exist but cannot be explained in terms of its causes, I suppose that one might say these qualities are emergent. However, it is not certain that Epicurus understood the qualities to be emergent. And even if he did so understand the qualities, it is not certain that it is legitimate for him to have done so. For, his atomism is meant to explain the phenomena, and it fails as an explanation if he asserts that there is a relationship but it cannot be explained, if he asserts that the perceivable qualities are real, though their reality cannot be accounted for. Further, if there is no systematically explainable relation between the atoms and these qualities, how do we know that we are permitted to go, in argument, from sense-pertion to the atoms? Epicurus does argue in this way.

If, on the other hand, what is meant by "emergent quality" is something that occurs when two things actually combine, losing their own separateness and separate natures, for example, what happens to hydrogen and oxygen when they combine to make water, Epicurus' perceivable qualities are not emergent qualities, for the Epicurean atoms do not loose their separateness nor their natures by combining. I do not think, then, that the perceivable qualities of Epicurean compound bodies may be called "emergent" qualities.

CHAPTER IV

THE PROPERTIES AND ACCIDENTS OF COMPOUND BODIES

Before considering the various attributes of the compound bodies, let us review some of the conclusions of the previous chapter--those that pertain to properties and accidents of compound bodies. Compound bodies are combinations of atoms and the void; the atoms of the compound, like free atoms, are continually moving and are moving at the same rate, as quick as thought. The compound body is not, throughout its total existence, composed of the same atoms--some atoms are always leaving, others always joining the compound; nonetheless the compound's unity, nature, and existence are preserved by virtue of the relatively unchanging configuration of the moving atoms and by virtue of the fact that the atoms joining the compound must be of a certain sort, such that they are accepted into the configuration, can link their movements with the movements of the atoms in the compound.

The shape and size of an atom are determinative of the kinds of configuration which it may join, and of the position which it may take in any configuration. For example, it would seem that many atoms which have "hooked" shapes could join other atoms of the same shape and which compose a solid body, but that only a few atoms of that sort could join the smooth atoms of a liquid, if it is to remain a liquid--

they could join as a minor part, a part responsible for, perhaps, a bitter taste of that liquid. If many atoms of a sort different from the original combining atoms of a compound were to join that compound, the configuration would change as, say, water changes to ice. The shapes of the combining atoms are determinative of some of the attributes of the compound body and of the organization of the combining atoms.

The attributes of compound bodies may be divided into two sorts: Those that are quantitative and those that are qualitative. By 'quantitative', I mean the attributes of quantity--size, shape, weight, and motion. By 'qualitative', I mean the directly perceivable attributes of quality--color, odor, sound, flavor, temperature, and texture. (Texture is qualitative insofar as it is not measurable, but felt.) The quantitative attributes of the compound body seem to be readily inferrable from the attributes of the combining atoms.

Consider, for example, motion. Within the compound body the atoms are in motion. We have seen in the preceding pages[1] that air and fire are things, compound bodies, in which the atoms are in motion (apparently in some organized fashion) long distances from one another. In liquids the configuration of moving atoms is such that the atoms are more closely arranged than in gases. In solid bodies the atoms are so close to each other that the motion of the atoms within them is described as an internal vibration or as frequent internal collisions.

The motion or rest of a compound is, as Epicurus tells us,

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[1]See supra, pp. 38-39.

the outward product of its internal collisions.[1] The separate motions of the atoms within the compound are, of course, not perceivable, since atoms are not perceivable; furthermore, the speeds of the different atoms, even within the compound, are all the same, all as quick as thought;[2] and, these internal motions are in various directions. The motion or rest of the compound is a product of the motions of the combining atoms; for the various combining atoms, while all moving at the same speed, are moving in many different directions.

The number of atoms moving in a certain direction, and the number of atoms moving in different directions from this first direction and from each other, determine the speed of the motion and the direction of the motion of the compound body. The product of these motions, the motion of the compound body, is either motionlessness or slow motion or fast motion depending upon the number of atoms which are contrary in motion to each other. If the motions of the atoms are such that a balance is created, the compound will be at rest. If the body moves, the direction and speed of the motion of the compound will be dependent upon the direction of a deciding number of atoms within the compound. The number of atoms moving in some other direction or directions from that of the deciding number, and the collisions which the various atoms have with one another will determine how quickly or slowly the whole may move.[3]

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[1]H, sec. 47b: " . . . ἀντικοπῇ γὰρ ὅμοιον ἔσται . . . ."

[2]H, secs. 61, 46b, and 62.

[3]H, secs. 61, 46b, 62, and 47b.

That the atoms may be in motion within a compound while the whole is at rest and while even the fact of internal vibration is not evident to the senses, is accounted for by Lucretius. He makes an analogy between atoms in a compound and a herd of sheep, viewed at a distance, within which the sheep are moving about but which seems to be a stationary "white mass on a green hill."[1]

Whereas the motion of the compound body is the product of the internal motions and collisions of the combining atoms, other quantitative attributes may be differently explained. The hardness or softness of a compound body seems to be relative to the amount of void in the compound; for the atoms are hard but the void is completely intangible, so that the greater amount of void in a compound the softer it will be. The weight of the compound would seem to be equal to the combined weights of the combining atoms, while a compound's shape and size would seem to be dependent upon the disposition of the entangled atoms. An account of these more or less quantitative attributes is easily given in terms of the atomic theory since the atoms, or the atoms plus the void, have quantitative attributes.[2] The Epicurean account of qualitative attributes is, however, problematic.

An account of the way in which the perceivable qualitative attributes are perceived is essential to an explanation of these qualities. Thus, it is necessary to anticipate briefly Epicurus' account of sensation (which will be considered thoroughly in Chapter V, before considering qualitative attributes of compound bodies. For Epicurus,

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[1]DRN II, 308-32.

[2]H, sec. 54.

the only actions which are uncaused are two motions of the atoms: the natural downward motion and the swerve.[1] All other actions are caused ultimately by the motions and collisions of the atoms, and all other actions are caused proximately by the direct physical contact of the causing agent (be it an atom or a compound of atoms) with the patient, or direct physical contact of two interacting objects. Sensation, too, is owing to direct physical contact of the perceived object and the perceiver. What seems, then, from the point of view of experience, to be interaction of objects at a distance (seeing the distant tower or hearing the distant drumbeats, is, according to Epicurus, owing to direct physical contact of one thing with another. The direct physical contact between the distant perceived object and the perceiver is effected by means of something material that comes from the perceived body and touches the perceiving organ. The "something material" that comes from the perceived body is called an "emanation."

The emanations for each sort of perception are different in nature from each other. It seems clear that tasting and touching are sensations accomplished by direct physical contact; it does not seem clear that seeing, hearing, and smelling are accomplished in this way. However, even the latter three are explained in this way by Epicurus, for they are said to be owing to direct contact effected by the emanations. In the cases of seeing, hearing, and smelling, something similar to the attribute of the body emanates from that body and then strikes the recipient, and thus impresses upon the recipient the attri-

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[1]The swerve is considered *supra*, Chapter II, pp. 30-33, and *infra*, Chapter VII, pp. 166-67 and 170-73.

bute of the perceived compound body.

Concerning vision, Epicurus says that the color and shape of the compound body are perceived by virtue of emanations from such a body making an impression upon us of its (the compound's) own color and shape.[1] Emanations for vision are images of color and shape that are just like the surface of the body from which they emanate. Indeed, the very color and shape of the surface of the body leave that body and emanate to the eyes. The color and shape which leaves is replaced, for new atoms are always joining the compound body to replace the ones that have departed. The body that makes a sound produces a stream that transfers from the object making the sound the very sound made; the stream splits into parts like the whole and like each other, and these parts disperse and strike the listening organs of recipients. Odor is produced and transmitted in a way similar to the production and transmission of sound.[2] What we see, feel, hear, taste, or smell (namely, color and shape, texture and temperature and shape, sound, flavor, or odor) really belongs to these bodies just as they are perceived. Perceivable attributes of compound bodies, then, actually belong to compound bodies, and perception is veridical.

To say that perception is veridical is to say that whatever one perceives has actually struck some sensory organ or another or has struck the mind directly, having come from without. Attributes perceived are not illusory products of the mind alone, nor are they products of the interaction of the mind with something unlike what is per-

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[1] H, secs. 46a-52.

[2] H, secs. 52-53.

ceived. Mistakes occur not in perception but in the addition of opinion to what is perceived, as Epicurus says in sections 50-52 in the letter to Herodotus. Perceivable attributes are among those things that Epicurus calls properties[1] and accidents.[2]

Although according to Epicurus the only realities are atoms and the void, yet when these combine together to form compound bodies, then these latter possess in their own right perceivable properties and accidents, not merely of the quantitative sort but of the qualitative sort as well. According to Epicurus, two sorts of things are real: Those attested to by perception, and those attested to by reasoning about the necessary undergirding of the perceived material world.[3] The latter sorts of things are atoms, the void, and their attributes; the former sorts are perceived objects and their attributes (which are also perceived). Perceived objects are combinations of atoms and the void; their attributes are not attributes of atoms and the void but of the combination.[4]

In evaluating the explanatory adequacy of Epicurus' position one discovers the following distinctions in Epicurus' physics and epistemology:

(1) Among things, the distinction between (a) atoms and (b) compounds of atoms.

(2) Among attributes of things, the distinction between

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[1] συμβεβηκότα. [2] συμπτώματα.

[3] See H, secs. 38 and 62, KD XXIV, and Life, secs. 31-33.

[4] H, secs. 54 and 62.

(a) real attributes and (b) attributes inferred by or constructed by the mind.

The attributes of the atoms are real, that is to say, they belong to atoms precisely as they are understood by the intellect to belong to them. The real attributes of compound bodies are of two sorts--quantitative and qualitative. The quantitative attributes are size, shape, weight, and motion. The qualitative attributes are color, texture, temperature, sound, odor, and flavor.

Other attributes attributed to compound bodies, attributes not directly perceivable, are constructs of the mind which are reducible, so far as their source and meaning are concerned, to the perceivable qualities. Such qualities as humanity and horseness or generosity and beauty are of this sort; one cannot perceive such things, one perceives or imagines some set of perceivable attributes which one regards as belonging together and to which one refers by one term, such as "humanity." Thus, one might say that the atoms and their attributes, the void and its intangibility, the compound bodies and their quantitative and qualitative attributes are real. The other attributes, constructed in the mind and attributed to objects, are not real but inferred from and reducible to the real attributes, attributes known directly by perception or reason. For example, one truly attributes humanity to Socrates; however, humanity is not a real attribute belonging to the object but rather a mental construct that is reducible to some set, albeit a very complicated set, of real attributes that the object has. There is no essence humanity; rather the term "humanity" and terms related to it are used to denote a combination of certain

kinds of real qualities.

The above analysis is appropriate to all essences of things in natural classes, to values, and all other attributes that are not real (real attributes are perceivable or material). According to Epicurus, the only causes are material; everything must be explained in terms of material causes. Material attributes are the attributes belonging to body qua body, that is, the attributes of extension that belong to the atoms and the combinations of atoms. They are real because bodies are real. Perceivable attributes are attributes that may be perceived directly by the sense-organs; because they are real, perception is veridical.[1] All other attributes must be accounted for in terms of these two sorts of real attributes.

The above account of real attributes is an account of Epicurus' theoretical position. In the remaining pages of this chapter and in Chapter V I shall examine carefully the accounts of properties and accidents and of perception and perceived attributes that Epicurus provides in the letter to Herodotus. I shall show that his account of the attributes of things is neither clear nor adequate. It is not clear insofar as no single consistent account of the attributes of things may be discovered in his account. It is not adequate insofar as the account does not serve to explain either the natures of, or our assessment of, the objects of our experience. This latter point--our assessment of the objects of our experience--will be considered again more thoroughly in Chapter VII when I examine Epicurus' account of the

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[1]H, secs. 50-52.

nature of the soul and the acquisition of knowledge. The following examination of Epicurus' account of properties and accidents reveals the inadequacy in his position, the inadequacy that results from his holding that only atoms are real things and that perception provides one with knowledge.

Epicurus' account of properties and accidents appears in the letter to Herodotus at sections 68 through 71; it is supported by Lucretius' brief account in the first book of De Rerum Natura at lines 448 through 482. Epicurus begins his discussion with an account of properties. He says:

> . . . concerning shape and color and size and weight and as many others as are predicated of bodies as if either properties of all things or of things visible (or, more precisely,[1] of things known owing to the perception of perceived properties)[2] it is not necessary to suppose: (1) that they are, by themselves, elementary substances (for it is not possible to conceive this), (2) that they do not exist at all, (3) that they are some other kind of incorporeal existence accompanying body,[3] or (4) that they are constituent (material) parts[4] of

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[1]The expression here translated "or, more precisely," is καί. It is here regarded as a heightening conjunctional καί or a corrective καί. See H. W. Smyth, Greek Grammar (hereinafter referred to as Smyth) (Cambridge, Harvard University Press, 1920), #2870.

[2]The term is αὐτῶν. I translate it "perceived properties" since they are the things perceived which permit one to know perceivable bodies. This interpretation is indicated by the last half of the passage insofar as it says that the compound bodies owe their permanent natures to the properties and that the body is conceived owing to a conception of the assemblage of properties; it is through its perceivable attributes that a perceivable body is known.

[3]Properties are not incorporeal attachments to bodies; for only the void is incorporeal, and properties are not the void.

[4]In this passage it is explained that properties are not constituent parts of bodies, i.e., neither material parts nor atoms nor minimal parts.

bodies. Rather, the whole body in its entirety[1] has its own permanent[2] nature from all of the properties.[3] It does not have its permanent nature from the properties being collected together (as when, for example, from the particles themselves, the assemblage of atoms is composed either from first things or from magnitudes of whatever sort smaller than this); but only, as I say, from all of these things it has its own permanent nature. And all these things exist, having peculiar acts of apprehension and distinctions in thought, on the condition that the assemblage of properties[4] follows along with and is in no way separated from them, but if the body has received predication it is owing to a conception with respect to the assemblage[5] of the properties.[6]

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[1]The term here is καθόλου. It can be translated "in general" or "in its entirety." The following analysis will show that the atom has its permanent nature in its entirety from its properties; but the compound body does not, because it is not only a perceivable body whose permanent nature, as a perceived body, is determined in its entirety by its properties, but also a collection of atoms, and as such it is understood in terms of its configuration and the kinds of atoms so arranged and not in terms of perceived properties. For yet another reason "in general" is somewhat more appropriate than "in its entirety" when applied to compound bodies; this will be explored in the analysis of the passage.

[2]This adjective (ἴδιον) is problematic. The first translations are "eternal" and "everlasting." Since only atoms are eternal or everlasting, only they, properly speaking, have eternal natures. Compound bodies have the same nature so long as the configuration of atoms from which they are composed remains intact. The third translation of "perpetual," is closer to the proper way of speaking of the duration of a compound body, though it is not entirely satisfactory. Bailey uses "permanent" to reflect the fact that the properties remain only so long as the compound body is intact.

[3]"All of these" (τούτων πάντων) are the properties, the subject matter of the paragraph.

[4]τοῦ ἀθρόου may be an aggregate of atoms; however it would seem that one thinks of a body (either an atom or a compound body, an aggregate of atoms) in terms of its properties; and one recognizes that no property can exist alone but only in conjunction with the others, and one predicates a property of the body understood in terms of the conjunction of properties that determine the permanent nature of the body. So, ἀθρόον is also an aggregate of properties.

[5]την ἀθρόαν; see <u>supra</u>, note 4.

[6]H, secs. 68-69: "ἄλλα μὴν καὶ τὰ σχήματα καὶ τὰ χρώματα

The above passage is followed by a part of a sentence and a lacuna. The part of the sentence says, "And truly also, there often happen to bodies, but do not permanently go along with them . . . ."[1] Bailey fills the lacuna as follows: "accidents, of which we must suppose neither that they do not exist at all nor that they have the nature of a whole body."[2] The lacuna is filled by analogy to what Epicurus says of the properties, and it seems to be appropriate. Just as properties do exist but are not themselves whole bodies, so also accidents exist but are not themselves whole bodies. Thus, Bailey's suggestion is acceptable and the passage might have read: "Accidents often happen to bodies but do not permanently go along with them. We must suppose neither that they do not exist nor that they have the nature of a whole body . . . ." Then follows the remainder of the passage.

> . . . neither are they among the unseen nor the incorporeal. So that, indeed, when we employ this name according to common usage, we make it clear that accidents have neither the nature of the whole, which as the aggregate of atoms is

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καὶ τὰ μεγέθη καὶ τὰ βάρη καὶ ὅσα ἄλλα κατηγορεῖται σώματος ὡσανεὶ συμβεβηκότα ἢ πᾶσιν ἢ τοῖς ὁρατοῖς καὶ κατὰ τὴν αἴσθησιν αὐτῶν γνωστοῖς, οὔθ' ὡς καθ' ἑαυτάς εἰσι φύσεις δοξαστέον (οὐ γὰρ δυνατὸν ἐπινοῆσαι τοῦτο), οὔτε ὅλως ὡς οὐκ εἰσίν, οὔθ' ὡς ἕτερ' ἅττα προσυπάρχοντα τούτῳ ἀσώματα, οὔθ' ὡς μόρια τούτου, ἀλλ' ὡς τὸ ὅλον σῶμα καθόλου μὲν ⟨ἐκ⟩ τούτων πάντων τὴν ἑαυτοῦ φύσιν ἔχον ἀίδιον, οὐχ οἷον δ' εἶναι ⟨ἐκ⟩ συμπεφορημένων (ὥσπερ ὅταν ἐξ αὐτῶν τῶν ὄγκων μεῖζον ἄθροισμα συστῇ ἤτοι τῶν πρώτων ἢ τῶν τοῦ ὅλου μεγεθῶν τοῦδε τινὸς ἐλαττόνων), ἀλλα μόνον, ὡς λέγω, ἐκ τούτων ἁπάντων τὴν ἑαυτοῦ φύσιν ἔχον ἀίδιον. καὶ ἐπιβολὰς μὲν ἔχοντα ἰδίας πάντα ταῦτά ἐστι καὶ διαλήψεις, συμπαρακολουθοῦντος δὲ τοῦ ἀθρόου καὶ οὐθαμῇ ἀποσχιζομένου, ἀλλὰ κατὰ τὴν ἀθρόαν ἔννοιαν τοῦ σώματος κατηγορίαν εἰληχότος."

[1]H, sec. 70: "καὶ μὴν καὶ τοῖς σώμασι συμπίπτει πολλάκις καὶ οὐκ ἀίδιον παρακολουθεῖν . . . ."

[2]See Bailey, p. 239.

> comprehended together we call body, nor the nature of the things which go along with the body permanently, and without which a body cannot be conceived. But owing to certain acts of apprehension [that it, when it is apprehended], when the aggregate of atoms goes along with an accident, it might be named, but only whenever it may be that each is seen happening; since the accidents do not go along with a body permanently. And one must not expel from existing things this clear and distinct perception because it does not have the nature of the whole to which it happens nor the nature of the things which go along with the body permanently. Again, it is not necessary to suppose that they exist by themselves (for it is not possible to think this in respect of these things or in respect of the permanent properties). All the accidents must be thought to go along with the bodies the very way the accidents appear. They must not be thought to go along with bodies in the same way as the things which go along with the body permanently, nor again as having, by themselves, a rank in material nature. But, as the act of sensation sees for itself the peculiar nature of accidents, that act represents [the way in which they go along with bodies].[1]

Epicurus gives as examples of properties color, shape, size, weight. To this he adds the generalization that properties are whatever is " . . . predicated of bodies as if either of all things or of things visible or, more precisely, of things known owing to the perception of perceived properties."[2] Properties, then, seem to be the attri-

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[1]H, secs. 70-71: " . . . οὔτ' ἐν τοῖς ἀοράτοις εἶναι οὔτε ἀσώματα. ὥστε δὴ κατὰ τὴν πλείστην φορὰν τούτῳ τῷ ὀνόματι χρώμενοι φανερὰ ποιοῦμεν τὰ συμπτώματα οὔτε τὴν τοῦ ὅλου φύσιν ἔχειν ὃ συλλαβόντες κατὰ τὸ ἀθρόον σῶμα προσαγορεύομεν, οὔτε τὴν τῶν ἀίδιον παρακολουθούντων, ὧν ἄνευ σῶμα οὐ δυνατὸν νοεῖσθαι. κατ' ἐπιβολὰς δ' ἄν τινας παρακολουθοῦντος τοῦ ἀθρόου ἕκαστα προσαγορευθείη, ἀλλ' ὅτε δήποτε ἕκαστα συμβαίνοντα θεωρεῖται, οὐκ ἀίδιον τῶν συμπτωμάτων παρακολουθούντων. καὶ οὐκ ἐξελατέον ἐκ τοῦ ὄντος ταύτην την ἐναργείαν, ὅτι οὐκ ἔχει τὴν τοῦ ὅλου φύσιν ᾧ συμβαίνει οὐδε τὴν τῶν ἀίδιον παρακολουθούντων, οὐδ' αὖ καθ' αὐτὰ νομιστέον (οὐδε γὰρ τοῦτο διανοητέον οὔτ' ἐπὶ τούτων οὔτ' ἐπὶ τῶν ἀίδιον συμβεβηκότων), ἀλλ' ὅπερ καὶ φαίνεται, συμπτώματα πάν⟨τα κα⟩τὰ τὰ σώματα νομιστέον, καὶ οὐκ ἀίδιον παρακολουθοῦντα οὐδ' αὖ φύσεως καθ' ἑαυτὰ τάγμα ἔχοντα, ἀλλ' ὃν τρόπον αὐτὴ ἡ αἴσθησις τὴν ἰδιότητα ποιεῖ θεωρεῖται."

[2]H, sec. 68: " . . . κατηγορεῖται σώματος ὡσανεὶ συμβεβηκότα ἢ πᾶσιν ἢ τοῖς ὁρατοῖς καὶ κατὰ τὴν αἴστησιν αὐτῶν γνωστοῖς."

butes which can be predicated of all bodies (of body qua body); or of perceivable bodies (of body qua perceivable body).

Properties that belong to a body qua body are whatever attributes always go along with bodies. Thus size, shape, and weight are properties of body qua body because anything that is a body always has size, shape, and weight, whether it is an atom or a collection of atoms, whether it is perceivable or not.

Properties that belong to a body qua perceivable body are whatever attributes always go along with perceivable bodies. Thus color is a property of a body qua visible (a kind of perceivable body) because a body could not be visible and not have color. So also, sound is a property of a body qua sounding or heard body because a body would not be hearable if it were not making a sound. Similar observations may be made with respect to odor and smelled bodies, flavor and tasted bodies, felt qualities (temperature, texture, the attributes of extension) and felt bodies.

Epicurus corrects his "of things visible"[1] by saying "or, more precisely, of things known owing to the perception of perceived properties."[2] He makes this correction for the following reasons: Properly speaking, "things visible" are not bodies, not visible bodies, but colors;[3] colors are what one sees. What is known by vision is a body known owing to the seeing of color, and color is a property of such a

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[1]H, sec. 68: "τοῖς ὁρατοῖς."

[2]H, sec. 68: "καὶ κατὰ τὴν αἴσθησιν αὐτῶν γνωστοῖς."

[3]See infra, Chapter V, pp. 92-103.

body. Further, not only are colors properties, but also other things attributed to bodies, which bodies are known owing to the perception of those attributes, may be properties, too. Whatever always goes along with a body in any of the modes of perception--the visual, the auditory, the olfactory, the tactile, or the gustatory--is a property of a body qua perceivable body. Properties are the attributes that always go along with bodies or with perceivable bodies in any of the modes of perception.

That properties are attributes that always, rather than just sometimes, go along with bodies or perceivable bodies is indicated by other statements in the text. Epicurus says that "the whole body in its entirety has its own permanent nature from all of these [that is, all of its properties]."[1] What is meant by this will be considered presently. However, this statement is needed now only in conjunction with some sentences in Epicurus' discussion of accidents in order to place the latter sentences in their proper perspective. The sentences are as follows:

(1) Accidents happen to bodies but do not go along with them permanently.[2]

(2) The accidents do not have the nature of the things that go along with the body permanently.[3]

(3) The accidents may only be named whenever it may be that

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[1]H, sec. 69: " . . . τὸ ὅλον σῶμα καθόλου μὲν ⟨ἐκ⟩ τούτων πάντων τὴν ἑαυτοῦ φύσιν ἔχον ἀίδιον . . . ."

[2]H, sec. 70. And see supra, p. 66, and note 1 on that page.

[3]H, sec. 70. And see supra, p. 66, and note 1 on that page.

each is seen happening, since the accidents do not go along with a body permanently.[1]

(4) Accidents are distinguished from "permanent properties."[2]

It seems reasonable to suppose that what go along with a body permanently are those things from which a body has its own permanent nature, and that those things from which a body has its own permanent nature are what go along with a body permanently. These permanent attributes are properties. Accidents do not go along with a body permanently and, presumably, are not those things to which a body owes its permanent nature. This interpretation, further, reflects common usage, as Epicurus says.[3] Common usage is reflected inasmuch as accidents happen to bodies by chance but are not always there. Accidents do not determine the permanent nature of a body. By contrast, properties are always there and do determine the permanent nature of a body.

Properties and accidents seemingly have some distinguishing marks in common:

(1) Properties and accidents are not atoms. Epicurus says that (a) properties are not by themselves elementary substances.[4] (b) Accidents are not among the unseen.[5] The elementary substances are the atoms and the atoms are unseen things.

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[1]H, secs. 70-71. See supra, p. 66 and note 1 on that page.

[2]H, sec. 71. See supra, p. 66 and note 1 on that page.

[3]H, sec. 70. See supra, p. 65 and note 1, p. 66.

[4]H, sec. 69. See supra, p. 63 and note 6, p. 64.

[5]H, sec. 70. See supra, p. 65 and note 1, p. 66.

(2) Neither properties nor accidents are incorporeal. Epicurus says: (a) Properties are not some other incorporeal thing existing along with bodies.[1] He also says that (b) accidents are not among the incorporeal.[2] Only the void is incorporeal, and it is only a place in which the atoms move. But whatever has some effect (as perceivable attributes of bodies do have upon perceivers), or whatever is a property of a body, cannot be the void, since the void's only characteristic is to be intangible. Nothing is incorporeal or intangible except the void. Thus, no attributes of bodies are incorporeal.

(3) Neither properties nor accidents have status as material things. They are not atoms, as has been noted above in point 1. And Epicurus says, (a) concerning properties, that they are not constituent parts of bodies; they are parts neither as first things nor as larger parts with magnitude;[3] (b) concerning accidents, that they do not have a rank in material nature.[4]

(4) Properties and accidents do, however, exist. Epicurus says: (a) concerning properties, that they all exist;[5] (b) concerning accidents, that one must not expel from existing things the accidents (which are clearly and distinctly perceived) because they do not have the nature of the whole to which they happen nor the nature of the

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[1]H, sec. 69. See supra, p. 63 and note 6, p. 64.

[2]H, sec. 70. See supra, p. 65 and note 1, p. 66.

[3]H, sec. 69. See supra, pp. 63-64 and note 6, p. 64.

[4]H, sec. 71. See supra, p. 66 and note 1 on that page.

[5]H, sec. 69. See supra, p. 64 and note 6 on that page.

things that go along with the body permanently.[1]

(5) Neither properties nor accidents exist independently. Epicurus says that it is not necessary to suppose that accidents exist by themselves; for it is impossible to think this either in respect of accidents or in respect of permanent properties.[2]

(6) Properties and accidents belong to bodies or are attributes of bodies. Epicurus says that properties go along with bodies permanently and that accidents often happen to bodies.[3]

The inference from these six points is, then, that properties and accidents are things existing only in relation to bodies. They are not themselves bodies, nor yet, are they incorporeal, but rather they exist in happening to bodies or in going along with bodies.

There are respects in which properties and accidents are different from each other. One respect has been noted:[4] Properties go along with bodies permanently, whereas accidents only often happen to bodies. However, the difference is a greater one than these words suggest. It is not simply that a body always has its properties while its accidents change, but, rather, as Lucretius tells us, "That is a property which in no case can be sundered or separated without the fatal disunion of the thing . . . . [Accidents are those] things by whose coming and going the nature of things abides untouched . . . ."[5] Pro-

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[1] H, sec. 71. See supra, p. 66 and note 1 on that page.

[2] H, sec. 71. See supra, p. 66 and note 1 on that page.

[3] H, sec. 70. See supra, p. 66 and note 1 on that page.

[4] Supra, pp. 68-69.

[5] DRN I, 451-58.

perties are described by Epicurus as being those things to which the whole body owes its own premanent nature. He says: " . . . the whole body in its entirety has its own permanent nature from all of these properties . . . ."[1] And, " . . . from all these things it has its own permanent nature."[2] Also he says that " . . . without the things that go along with a body permanently, the body cannot be conceived."[3] And again in his discussion of accidents, Epicurus contrasts accidents with " . . . things which go along with bodies permanently . . . ,"[4] and at one place calls properties "permanent properties."[5] Thus, a property always belongs to a thing; indeed, if a property were to be separated from a thing, that thing would necessarily have suffered fatal disunion. In addition, the thing derives its permanent nature from all of its properties; which means, so it would seem in the light of the previous statements, that the thing only has its own permanent nature so long as all of its properties remain constant or, as well, that so long as its properties remain constant, a thing has its own permanent nature.

Of course, compound bodies are not ἀίδιον (in the sense of being everlasting), since they dissolve. Only the atoms out of which they are composed are truly ἀίδιον. Yet, Epicurus does hold that all

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[1]H, sec. 69. See supra, p. 68, note 1.

[2]H, sec. 69. See supra, p. 64 and note 6 on that page.

[3]H, sec. 70. See supra, p. 66 and note 1 on that page.

[4]H, sec. 70. See supra, p. 66 and note 1 on that page.

[5]H, sec. 71: "ἀίδιον συμβεβηκόνων" (emphasis mine).

bodies, whether simple or compound, perceivable or imperceptible, have properties. Also Lucretius' examples of bodies with properties include simple and compound, perceivable and imperceptible bodies.[1] Thus, it can only be supposed that Epicurus is using ἀΐδιον equivocally to mean both the permanence of compound bodies and the everlastingness of atoms, or that he is understanding the temporary stability of compound bodies by analogy to the actual everlastingness of the atoms.

Since atoms are truly everlasting, consider an atom and its properties first. An atom always has a certain nature, and its nature is to be a certain size, a certain shape, and a certain weight. Its size, shape, and weight are everlastingly the same. Further, the size, shape, and weight of an atom, taken together, constitute its nature; no one of them, by itself, is a body, but each one always goes along with the body or with all the other properties of the body such that taken together they constitute its nature; no one of them exists independently; no one of them, by itself, is a body, but each one always goes along with the body or with all the other properties of the body such that taken together they constitute the nature of this body, this atom. Properties, then, cannot exist independently of each other, and together they determine the nature of the body. But the body is not constituted by them as of material parts; rather the nature of the body and its set of properties are simply the same thing, and the properties cannot be separated from the body nor from each other. The void and

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[1]DRN I, 451-54.

its intangibility are inseparable also; the void is intangibility, as it were.

Compound bodies have properties too, since they are among all bodies and are bodies known by the perception of properties, that is, perceivable properties.[1] A compound body is a combination of atoms whose identity and nature as a compound is owing to the configuration that the atoms take and the kinds of atoms within the configuration, though not to the identity of the atoms (since some atoms are always departing from and others adding to the compound).[2] Owing to what one might call a formal cause, that is, the formation or arrangement of the ever-changing matter, a compound body is an entity in its own right with its own attributes.[3]

The things attributed to compound bodies are real (quantitative and qualitative) and non-real (conceptualizations reducible to quantitative and qualitative attributes). Real attributes are distinguished by reason (those attributes that reason determines must necessarily belong to bodies) and by perception (directly perceivable attributes). Properties of compound bodies are real attributes. Non-real attributes are not properties.

The properties of compound bodies constitute, presumably,

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[1] H, sec. 69. See supra, p. 64 and note 6 on that page.

[2] H, sec. 54.

[3] See supra, Chapters III and IV, and infra, Chapter V, where it is shown that compound bodies have an identity of their own as well as attributes of their own. The quantitative attributes of compound bodies are considered earlier in this chapter and the qualitative perceivable attributes are considered briefly there as well as more fully in Chapter V.

the permanent nature of compound bodies, just as the properties of atoms constitute their everlasting nature. Since compound bodies are not everlasting, it is more appropriate to say of them that their properties determine their nature so long as they do exist, or are not dissolved.

In the case of an atom, it is clear that its own particular size, shape, and weight determine its nature; that is to say, its nature is to be this size, this shape, this weight. The properties of a compound body, like those of an atom, are not incorporeal nor are they independent corporeal attachments to the compound body (they are not themselves bodies); they are, rather, the determinations of the permanent nature of that compound body. Since compound bodies do change and do pass out of existence, the permanent nature of such a body must be understood as either the nature of that body so long as it has the same set of properties or the nature of that body so long as it maintains a certain identity. But, since it is from all of its properties that a body has its permanent nature--its identity--the first alternative is equivalent, presumably, to the second.

The explanation above seems very clear; the practical application is quite difficult, as will be seen below. For the question arises: What counts as a compound body for Epicurus? If, as has been allowed, it is not matter but form that determines a compound body, then, presumably, so long as the configuration remains the same and the kinds of atoms entering are of the same sort and in the same proportion as those leaving, a compound body may be regarded as the same compound body. If this analysis is to conform to the criterion of experience,

however, one must allow some variation (though how much variation is problematic) in the configuration and kinds and proportions of atoms in the compound body.

For example, a man is said to be the same throughout his life-time, though he changes in many respects. The changes are owing, according to Epicurean analysis, both to changes in configuration and in kinds of atoms in the compound of atoms. One takes a man as an example because, according to the criterion of experience, such an entity has a permanent nature. Epicurus should be able ultimately to account for the objects in the world of experience, because that is the world whose changes and perceivable bodies he is attempting to explain; at the same time Epicurus' account must be consistent with and, indeed, explained in terms of, the fundamentals of his position--his materialism and his empiricism. But, difficulties in Epicurus' explanation arise precisely because of his empiricism and his materialism and the conjunction of them. According to his materialism and his empiricism everything in nature can be explained in terms of real attributes (attributes of corporeality or attributes which can be directly perceived). What one directly perceives are colors, odors, flavors, temperatures, and sounds; and they are real. If the "realities of experience" (men, dogs, trees, and the like) are to be explained at all, then, they must be explained in terms of material attributes or perceivable attributes.[1]

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[1]Throughout De Rerum Natura, Lucretius indicates that he, at least, thinks that the realities of experience can be explained by Epicurean Atomism. See DRN I, 449-82; II, 581-99, 660-99, 865-70, and 991-1022.

Consider a reality of experience--a man. One's tendency would be to say that so long as it is a man, it remains the same thing, though it might grow older, turn gray, become wiser or more foolish, and the like. (These latter qualities might be regarded as accidental to a man.) It would be said to remain the same in virtue of its nature (humanity) or its particularity (being this human being and no other). Humanity, however, is not a real attribute; rather, it is attributed to a body because of some touchable, visible, hearable attributes that are real attributes. "Humanity" is shorthand for a concept that brings together certain perceivable attributes in thought. As Diogenes Laertius says in his Life of Epicurus:

> For, indeed, all thoughts have come into being from sensations by means of experience and analogy and similarity and combination, while reason, also, contributes something . . . . And the concept (or mental picture) is what they speak of as if of a direct apprehension or a right opinion or a thought or a general idea stored in the mind, that is to say, a memory of an appearance coming often from without . . . .[1]

And Epicurus says in his letter to Herodotus that " . . . it is necessary to keep everything in accord with sensations . . . ."[2]

In looking for some examples of Epicurean properties, then, one might ask, in reference to a human being, which seems to be a permanent compound body: To what attributes would the concept "humanity"

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[1]Life, secs. 32-33: "καὶ γὰρ καὶ ἐπίνοιαι πᾶσαι ἀπὸ τῶν αἰσθήσεων γεγόνασι κατά τε περίπτωσιν καὶ ἀναλογίαν καὶ ὁμοιότητα καὶ σύνθεσιν, συμβαλλομένου τι καὶ τοῦ λογισμοῦ. . . . τὴν δὲ πρόληψιν λέγουσιν οἱονεὶ κατάληψιν ἢ δόξαν ὀρθὴν ἢ ἔννοιαν ἢ καθολικὴν νόησιν ἐναποκειμένην, τουτέστι μνήμην τοῦ πολλάκις ἔξωθεν φανέντος . . . ."

[2]H, sec. 38: " . . . κατὰ τὰς αἰσθήσεις δεῖ πάντα τηρεῖν . . . ."

refer? Clearly the concept would refer to no particular color, though, perhaps, to a range of colors (the range in which one has found, by sense-experience, the colors of human beings to lie); no particular shape or size, though, perhaps, a range of shapes and sizes; and no particular sound, though, perhaps, for the most part, the catalogue of sounds that come under another concept, that of "speech." Since humanity is neither a directly perceivable attribute nor an attribute determined by reasoning about the necessary unseen undergirding of compound bodies, since humanity belongs neither to all bodies nor to bodies qua perceivable bodies, humanity is not a property; nor does it seem to be a concept directly drawn from properties since it refers rather to ranges of attributes. Epicurus might respond to this analysis by saying that a collection of things, such as all men (who are collected under the concept "humanity"), does not have properties because it is a collection of things. Rather, he might say that one must attend to an individual.

Consider, then, an individual--Socrates. Socrates' size and shape vary in time; it would be inaccurate to assign him only one size and one shape, though the range of shapes and sizes appropriate to Socrates would be smaller in extent than the range appropriate to the collection of all men. Socrates' color can vary (again, within a range smaller than the range of colors appropriate to the collection of all men) from moment to moment as, say, when he walks down a sun-dappled lane or sits by the flickering lamplight, as well as from day to night, and from summer to winter. His speech, too, his sound, will be incredibly varied from moment to moment. If one permits a compound

body to be one that remains the same throughout changes (within limits), in order to conform to the notion of reality that we have from experience, one cannot limit its properties to any one set of particular real attributes (quantitative or qualitative); thus, the properties of such a body (if such a body may count as a body with its attributes) are not what one perceives as belonging to a body. Rather, a set of the general categories of real attributes, which one deduces from different perceived attributes, are the properties of a body. But, perhaps a less complicated object might be more susceptible of Epicurean analysis.

Consider, then, a red cube. Qua visible body it is a red cube, but again variations in light can alter its color; it may be light red in bright light, dark red in little light, violet in blue light, colorless (and shapeless, as well) in the dark, so far as vision is concerned. Shape, unlike color, is perceivable (by touch) in the dark. However, it is not perceivable alone but only with some temperature and some texture. Of the red cube, then, one can say only that, qua visible body it has color and shape and size in general,[1] though each of these may differ according to the light in which one sees them and the distance from which one sees them. Not even shape and size escape generalization since, in experience, one might very likely regard this red cube to be the same thing if its size were actually diminished (if one were to pare it down) or its shape actually

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[1]For this reason, I am uncertain about the translation of καθόλου in the passage concerned with properties, H, sec. 69. See supra, p. 64, note 1.

altered, say, to a sphere (again, by a physical act).

In the three examples above I have attempted to discover a property or a set of properties that would satisfy (1) the physical requirement of being a real attribute or set of real attributes that goes along with a compound body permanently throughout the existence of that body, and (2) the epistemological requirement of being a real attribute that is present to sensation or a set of real attributes each of which is present to sensation. Neither humanity nor a man's individuality--each one of which would seem to be a possible candidate for being the sort of thing that goes along with a body permanently throughout its existence--was able to satisfy these requirements.

Since a property cannot be a particular perceivable real attribute of what seems, according to the evidence of experience, to be a compound body, then either (1) the explanation of the nature of properties must be altered or (2) the explanation of what a compound body is must be altered. Either (1) properties of a compound body are the general categories of that thing's attributes or (2) a body is the same thing, or exists, only so long as its real attributes are precisely the same.

On the first alternative, a body remains the same thing although there are changes in the configuration, the kinds of atoms, and the proportions of kinds of atoms in the compound body. On the second alternative, a body is the same thing only so long as its atoms are in precisely the same configuration, of exactly the same kind, and in exactly the same proportion to each other. Since a change in color occurs when the atoms of light strike the configuration of the atoms of

a compound body and alter it either in respect of the configuration or by adding atoms of a new kind or both,[1] change in color would, on the second alternative, amount to the ceasing of the existence of one body and the coming into existence of a new body. The existence of compound bodies would become very tenuous. $Socrates_1$ ceases to exist and $Socrates_2$ comes into existence as the same Socrates of experience moves from a shady to a sunny spot in walking down a sun-dappled lane. On the other hand, the category of accidents would become an empty category, for whenever there is a change there is a new entity.

Neither of the above alternatives seems precisely consistent with what Epicurus wrote concerning properties and accidents. On the one hand, although Epicurus does use general terms to give examples of properties--"shape," "color," "size," "weight"--, terms that might indicate that he holds that properties are actually general categories and not real attributes at all, on the other hand, it seems hardly likely that he could have actually meant that general categories are properties. General categories are, if anything, only concepts, not attributes of bodies. There are two reasons for supposing that Epicurus did not hold that general categories of attributes are properties of bodies.

(1) Things do not exhibit to the perceiver general attributes; the emanation is a particular attribute belonging to a body; when a particular emanation makes its way to the perceiver and strikes a recep-

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[1]This account is implied by Lucretius in DRN II, 808-809: " . . . and since these colors are begotten by a certain stroke of light, you may know that we must not think that they could become so without it."

tive perceiving organ, perception occurs. Epicurus says that properties are attributes of perceivable bodies, which bodies are known owing to the perception of properties.[1] Since this latter statement indicates that properties are perceivable, and since what is perceivable is particular, properties, according to this statement, must be particular perceivable attributes of bodies.

(2) Epicurus holds that properties determine the permanent nature of a thing. But no thing has general categories of attributes belonging to it, though its attributes may be classed (by the mind) according to general categories. A thing is said to be "colored" only because it has, say, this particular instance of a shade of red. It is not, itself, precisely speaking, colored, because "color" is a general term. The entity has this instance of this shade of red. thus, it may be brought under the general concept of color. But general categories do not belong to things as their attributes, and thus, general categories cannot determine the natures of things. But properties do determine the natures of things.

If Epicurus is to remain consistent with what he says about properties, then (1) he cannot hold that they are general categories of real attributes because he says that properties are perceived. But, (2) if he holds that properties are real attributes, then he must give up the notion, derived from experience, of an entity that has some sort of permanent nature despite some changes. (3) He must hold that compound bodies are momentary entities.

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[1]H, sec. 68. See supra, p. 63.

While the third alternative (above) makes Epicurus' position on properties consistent (though inadequate with respect to experience), it does not conform to his holding that there is another sort of attribute of compound bodies, namely, accidents. For on the third alternative, accidents are eliminated.

To see that the third alternative eliminates accidents, let us review some of the things that Epicurus says concerning accidents: (1) Accidents often happen to bodies but do not go along with them permanently. (2) Owing to certain acts of apprehension, when the aggregate of atoms goes along with an accident, it might be named, but only whenever it may be that each accident is seen happening; since the accidents do not go along with a body permanently. (3) Accidents must be thought to go along with bodies the very way they appear. (4) As the act of sensation sees for itself the peculiar nature of accidents, that act represents the way in which accidents belong to bodies.[1]

The above statements indicate (1) that accidents are perceivable attributes only, and (2) that they may only be named or said to exist when they are perceived as happening to the aggregate, and (3) that they are just as they appear. Thus, since atoms and the void are imperceptible, it would seem that atoms and the void do not have accidents; only perceivable compound bodies have accidents. In these statements the momentariness of the accidents is contrasted with the permanent character of the properties. Accidents may only be named or

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[1]H, secs. 70-71. See supra, pp. 65-66 and note 1, p. 66.

said to exist when they are perceived, and they are just as they are perceived to be. It seems that, by contrast, the permanent properties may be said to belong to the body whether they are being perceived at any particular time or not.

Or it may be that properties are, in contrast to accidents, not perceivable at all, but distinguished only in thought. Concerning properties, Epicurus says:

> And all these things exist, having peculiar acts of apprehension and distinctions in thought, on the condition that the assemblage of properties follows along with and is in no way separated from them. But, if the body has received predication, it is owing to a conception with respect to the assemblage of properties.[1]

Further, he says, in the passage on accidents, that properties are that without which the body cannot be conceived.[2]

Since the properties are said to be that without which the body cannot be conceived, and since they are said to have their own peculiar acts of apprehension and distinctions in thought, it may be that they are not perceivable. The momentary accidents are perceivable real attributes. The permanent properties are, perhaps, the general conditions of the existence of a body and that from which its permanent nature is derived, although it changes throughout its existence. The general conditions of the existence of a body are that it have shape, size, and weight. The general conditions of the existence of a perceived body are that it have color, shape, size, weight, odor, flavor, sound, temperature, and/or texture. If a property is a

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[1]H, sec. 69. See supra, p. 64, note 6.

[2]H, sec. 70. See supra, p. 66, note 1.

general condition of the permanent nature and existence of a compound body, then it would also be the case that it could be conceived but not perceived. It could be conceived by means of a general concept. Perhaps, then, an accident is a particular instance of the general condition for the existence of a perceivable body, whereas a property is the disposition of the body to exhibit one or another instance of an accident--such as a color or a shape or an odor or a sound or a flavor. The body has these dispositions or capacities (these properties) so long as the configuration remains, and loses these capacities when the configuration dissolves and the body is no longer. The conception of a property is the conception of these conditions--not of the atomic structure, but of the fact that the body can exhibit attributes of various sorts to perception. The mind conceives of properties by means of general concepts derived from perception of accidents. The mind can know properties only secondarily, by generalizing from the accidents perceived.

This last account of properties and accidents seems to me to be most consistent with the general drift of Epicurus' account of properties and accidents. It would seem most likely that Epicurus is trying to account for the permanent nature of the objects of experience. The above explanation of properties and accidents can do that. It conflicts, however, with the view that Epicurus expresses when he says that properties are perceived.[1] There are two alternative explanations of this conflict.

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[1]H, sec. 68. See supra, p. 63.

(1) Epicurus only meant to say that one perceives instances of properties, in perceiving accidents.

(2) Epicurus did not clearly distinguish the difference between talking generally about attributes and talking about the real attributes, which are perceived.

(1) If Epicurus only meant to say that one perceives instances of properties, then he is obligated to explain how the mind travels from the perceived instance or instances to the general concept in order that he may argue that he knows that there are properties and what they are. For he no longer has the evidence of direct perception to support his position. In other words, he must establish what legitimate relationship exists between an instance and the general condition of which it is supposedly an instance, on the one hand, and what legitimate relationship exists between an instance and a general concept, on the other, such that the general concept is a concept of the general condition. I demonstrate, in Chapter VII, that Epicurus cannot provide an account of general concepts. According to the view of Epicurus, a general concept is never more than a particular instance or a collection of particular instances.

(2) It seems more likely to me that Epicurus did not distinguish clearly between particular instances and general concepts. In speaking about experience, one uses general terms to describe particular cases. One says: "I see color, I hear sound," and the like to describe the sorts of things that are perceived. However, one only perceives particulars. One cannot say, strictly speaking, that one sees that something is colored or even that it is red. Rather, upon

seeing a particular instance of red one judges that the object is red or colored (that is, comes under the general concept red or the general concept colored). Inasmuch as one does use general terms to name the particular attributes that are perceived, it is easy to be confused about what one perceives. I say, for example, that "The apple is red" or "The apple is colored," because I see that it is red or colored. But whereas my language makes it clear that the apple I am talking about is an individual, since the name "apple" is limited by the definite article, my language does not make it clear that its color, too, is an individual, since the general name ("red" or "colored") is not so limited. Yet, strictly speaking, I do not see that the apple is red or colored. I only see a certain instance of a color, a particular visual datum.[1] To know that the apple is red or colored I must somehow bring the visual datum under a concept. How I do that and how I had the concept at all are both very difficult questions. Epicurus seemingly has confused the questions and, accordingly, he says that properties are perceived while at the same time he calls them by general names (size, shape, color) and identifies them as the determinations of the permanent natures of bodies or perceived bodies. It seems clear, then, that Epicurus meant by properties, the general conditions of compound bodies such that they exhibit various real perceivable attributes, but that he was mistaken in saying that properties are perceived.

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[1]Strictly speaking, I do not see the apple. I see a color. My concept of the apple is a collection of the various perceived attributes or remembered attributes that ordinarily go along with the term. See infra, pp. 92-108.

When Epicurus says that a property cannot be conceived without the assemblage of properties going along with it, although it has its own peculiar act of apprehension and distinction in thought,[1] he means that, though a property may be distinguished by itself in thought, it may not be thought to exist by itself. The condition of existence of a property is to exist with other properties or as an accompaniment to a body. So also, accidents, he says, are apprehended in perception when the aggregate goes along with them, that is to say, they cannot be thought to exist separately. Neither properties nor accidents exist separately, but only as accompaniments to the body, or only with others of their kind (properties and accidents, respectively).[2]

Though, by the final account of properties and accidents given above (that is, that properties are the general conditions of the compound body such that various sorts of particular real attributes are perceived, the accidents), I save the notion, derived from experience, that a perceivable body is one that remains through change, I save nothing else of the experiential notion of a permanent perceivable body. For consideration of properties is no longer relevant to thinking about the permanent nature of the perceivable bodies that we suppose ourselves to confront in experience, nor do such properties permit one to order the perceived accidents in such a way as to understand

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[1] H, sec. 69. See supra, p. 64, note 6.

[2] καθόλου now takes on both of its senses since properties give a compound body its perpetual nature "in general" and also constitute it "in its entirety," being characteristics of the compound qua compound with respect to all the real attributes it may exhibit.

the perceived body in that way. For, by considering the properties of any compound body one can only recognize that it belongs to the class of material things, since it has shape, size, and weight; or one can recognize that it belongs to the class of perceivable things, since it has color, odor, sound, flavor, and temperature. The organization of perceived accidents in respect of the properties of which they are instances will only allow one to organize them according as they are one or another of material kinds of attributes or one or another of perceivable kinds of attributes. The divisions that experience leads one to make, between such things as men and dogs and trees and shoes, is not explained by Epicurus' theory of properties and accidents.

The distinction of attributes into accidents (particulars) and properties (general characteristics of configurations of atoms) does not allow either Epicurean materialism or Epicurean empiricism to explain the experiential notions formed about perceived material entities. Although the most general categories of things may be material and/or perceivable, these categories do not reflect facts that are as clear to one, on the basis of one's experience (for example, that there are mem, some good,some vicious; that there are plants and animals of many kinds, some beautiful, some ugly), as that things are material and perceivable. There is a disparity between what, if we are acquainted with things through Epicurean properties and accidents, we would know about the world, and what, in fact, we do know about the world from experience. Epicurus' theory of properties and accidents is inadequate when tested by the criterion of experience.

Properties and accidents of compound bodies have, accord-

ingly, been classified. However, the physical nature and causes of the real qualitative attributes have not yet been determined. If atoms are the ultimate causes of all things, such an explanation should be derivable from his general principles of the nature of things. In the following chapter, which is concerned with perception and perceived attributes, the nature and causes of these attributes will also be considered.

CHAPTER V

PERCEPTION AND PERCEIVED ATTRIBUTES

The subject of perception and perceived attributes was introduced in the preceding chapter in order to explain Epicurus' position that perceived attributes are real. The consideration of the reality of perceived qualitative attributes was directed towards a clarification of the distinction between properties and accidents of compound bodies, perceived qualities being accidents of these bodies. Although, in Chapter IV, a probable account of properties and accidents was discovered, the nature and cause of the qualitative attributes was not; that is to say, it was not discovered how atoms lacking perceivable qualities can, by combining, produce perceivable qualities. How this happens is considered in this chapter.

In the letter to Herodotus, Epicurus explains that three types of perceived attributes--those seen, heard, or smelled--are real; and he explains how they are perceived in virtue of physical contact between the various perceiving organs and the different sorts of things that emanate from the perceived body. He does not offer an explanation of the perception of tasted or felt attributes, presumably because it is clear that they are perceived owing to direct physical contact between the perceived body and the perceiver. Each of the first three

types of attributes perceived, as well as the perception of these attributes, will be considered separately here, as Epicurus himself considered each one.

Epicurus begins with an explication of the mechanics of the physical contact affording one vision of distant bodies.[1] First he considers the production of the images by the bodies, saying:

> Moreover there are images like in form to the solid objects, but much more subtle or thin than solid, perceivable objects. For it is not impossible that such emanations come to be in what surrounds bodies, it is not impossible that such conveniences for the production of the hollow and fine things exist, and it is not impossible that emanations maintain the continued position and sequence that they had in the solid bodies. We call these images films.
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> Next, nothing among perceivable things contradicts the position that the films possess a thinness not to be surpassed. Thus, they also have a speed not to be surpassed. Since all have openings in right measure, there is nothing or little before the emanations to collide against them, whereas the bodies composed of many or endless atoms immediately collide with something. And besides this, nothing among perceivable things contradicts the position that the generation of films happens as quick as thought. And, indeed, the flow of emanations from the surface of the bodies is continuous; but diminution in the solid bodies is not detected because of the filling up again. The position and arrangement of the atoms of the solid object are preserved for a long time in the film; though sometimes they are confused. Sometimes, also, there are quick combinations in that which surrounds bodies, because it is not necessary for them to be filled to the depths, as it is for a solid body.[2]

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[1]As Bailey's rearrangement of parts of sections 46 and 47 was observed in Chapter II (see supra, note 5 on page 29), so also it will be observed here. Only the first parts of 46 and 47 (referred to as 46a and 47a) will be used in considering the generation of films for vision.

[2]H, secs. 46a, 47a, and 48: "Καὶ μὴν καὶ τύποι ὁμοιοσχήμονες τοῖς στερεμνίοις εἰσί, λεπτότησιν ἀπέχοντες μακρὰν τῶν φαινομένων. οὔτε γὰρ αποστάσεις ἀδυνατοῦσιν ἐν τῷ περιέχοντι γίνεσθαι τοιαῦται οὔτ' ἐπιτηδειότητες τῆς κατεργασίας τῶν κοιλωμάτων καὶ λεπτοτήτων γίνεσθαι, οὔτε απόρροιαι τὴν ἐξῆς θέσιν καὶ βάσιν διατηροῦσαι, ἥν περ καὶ ἐν τοῖς στερεμνίοις εἶχον τούτους δὲ τοὺς τύπους εἴδωλα προσαγορεύομεν.

"Εἶθ' ὅτι τὰ εἴδωλα ταῖς λεπτότησιν ἀνυπερβλήτοις κέχρηται,

Epicurus' position is that films of atoms emanate[1] from the surface of bodies and quickly traverse the distance to the perceiver, usually preserving the position and arrangement of the atoms of the film as they were on the surface of the body. The films move quickly because they are extremely thin, exceeding by far in thinness the solid objects, and because there are openings or passages in what surrounds (that is, the air) of suitable size for them to pass through. Larger compounds of atoms, bodies consisting of many atoms, meet with resistance or collisions in moving.

Films can move through the air almost as quick as thought because there are openings or passages in the air which permit them to pass through. Larger, denser bodies cannot move so quickly because there are no openings of suitable size for them; they meet with resistance. Images cannot pass through stone walls, presumably because the openings or passages in that case will not accommodate such films.

The section on the movements of the atoms and the movements of compound bodies suggests another reason why films can move much more

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οὐδεν ἀντιμαρτυρεῖ τῶν φαινομένων ὅθεν καὶ τάχη ἀνυπέρβλητα ἔχει, πάντα πόρον σύμμετρον ἔχοντα προς ⟨τῷ⟩ τῷ ἀπορρῷ αὐτῶν μηθὲν ἀντικόπτειν ἢ ὀλίγα ἀντικόπτειν, πολλαῖς δὲ καὶ ἀπείροις εὐθὺς ἀντικόπτειν τι. πρός τε τούτοις, ὅτι ἡ γένεσις τῶν εἰδώλων ἅμα νοήματι συμβαίνει. καὶ γὰρ ῥεῦσις ἀπὸ τῶν σωμάτων τοῦ ἐπιπολῆς συνεχής, οὐκ ἐπίδηλος τῇ μειώσει διὰ τὴν ἀνταναπλήρωσιν, σῴζουσα τὴν ἐπὶ τοῦ στερεμνίου θέσιν καὶ τάξιν τῶν ἀτόμων ἐπὶ πολὺν χρόνον, εἰ καὶ ἐνίοτε συγχεσμένη, καὶ συστάσεις ἐν τῷ περιέχοντι ὀξεῖαι διὰ τὸ μὴ δεῖν κατὰ βάθος τὸ συμπληρώμα γίνεσθαι . . . ."

[1]To say that there are films of atoms emanating from a body is simply to say, as will be seen in what follows, that the "perceived" body actually gives off or emits a film of color and shape, or its own surface, which is then seen by the perceiver. All sense qualities actually come as they are on the body, or in the body, to the perceiver. Thus, one truly perceives the attributes of the body.

quickly than denser bodies.[1] In the denser bodies the atoms move in ways contrary to each other; the motion of the body is a product of these motions and is much slower than the motions of the atoms themselves; indeed, oftentimes the product-motion is motionlessness. Because of the arrangement of their atoms, the extremely thin films move very quickly. The atoms in the thin films are arranged, perhaps, in such a way as to have a depth measurable by only a few atoms. As a result of this there would be few collisions among the atoms in the film, there being so few of them to collide with each other; and thus, the motion of the film would be retarded very little.

The generating of the films happens, he says, as quick as thought. As fast as the atoms themselves can move, a new film is generated. Thus, the flow of films is, again as he says, continuous. The atoms leaving, of course, are replaced[2] so that the solid body maintains its bulk.

Because the films move so quickly and because they neither suffer much internal collision nor collision with other atoms as they pass through the openings in the air, the position and arrangement of the atoms of the film generally remain the same as they were on the surface of the body. These films of arranged atoms <u>are</u> images for the perceiver. Because these films of atoms <u>are</u> images for the perceiver, vision is generally accurate, although sometimes the images are confused or join other images to make a compound image. The combined

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[1]See H, secs. 61, 46b, 62, 47b.

[2]Epicurus says in section 48 that some atoms are always leaving the compound body, while new ones are joining the body.

images would account for illusions.

Epicurus then states that his theory is supported by what happens in sensation and that perception (or, at least, vision) is veridical. He says: "None of these things is invalidated by sensation, and anyone can see in what manner there is a clear and distinct perception and in what way a corresponding quality to the one which the solid body itself has is brought from the thing from without to us."[1]

So far, only Epicurus' discussion of the flow of films from the body to the perceiver has been considered. The receiving and registering of the image by the perceiver remains to be considered. Epicurus continues in his discussion of vision and visible attributes to explain the impact that the images from compound bodies make upon perceivers. He writes:

> It is necessary to suppose, too, that when something comes in from the things without, we see and think the shape. For, the things outside cannot impress the nature of their own color and shape by means of the air between us and them, nor by means of rays or some kind of current coming from us to them. Rather, some images are coming in to us, coming in from things like in color and like in shape to the images. They come in either to the eyes or to the mind, depending upon their size. The images move rapidly. Because they move so rapidly, the recurring images cause a single and continuous image in the eye or in the mind, and preserve a corresponding quality to that of the external reality. There is a continual impact, upon the perceiving organ, of images coming from the object because the atoms vibrate in the depths of the solid object.[2]

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[1]H, sec. 48: "οὐθὲν γὰρ τούτων ἀντιμαρτυρεῖται ταῖς αἰσθήσεσιν, ἂν βλέπῃ τις τίνα τρόπον τὰς ἐναργείας, τίνα καὶ τὰς συμπαθείας ἀπὸ τῶν ἔξωθεν πρὸς ἡμᾶς ἀνοίσει." Because perception occurs in this way, perception is veridical.

[2]H, secs. 49-50: "Δεῖ δὲ καὶ νομίζειν, ἐπεισιόντος τινὸς ἀπὸ τῶν ἔξωθεν τὰς μορφὰς ὁρᾶν ἡμᾶς καὶ διανοεῖσθαι οὐ γὰρ ἂν ἐναποσφρα-

Epicurus denies that the air itself transmits the color and shape of the perceived object to the perceiver. He also denies that perception occurs because of a current flowing out from the perceiver. Rather, the solid object produces a steady stream of images that strike the eyes or the mind and produce there a continuous image that is like the quality of the object from which the stream flows.

The images apprehended by the eyes are different in size from those apprehended by the mind; one size enters the mind, another enters the eyes. When the eyes apprehend the image, there occurs an apprehension by sense-perception. When the mind apprehends images, there occurs either dreaming, imagining, or thinking.

When the mind moves with respect to the apprehension by sensation it is not to grasp the image--it has been grasped--but to judge or opine about that image. Epicurus holds that the sense-organs are responsible for physically apprehending the sense-qualities. And, because he is a materialist, Epicurus accounts for mental apprehension in terms of some other sort of physical occurrence, the physical mind apprehending the physical images (or films of atoms) which are of a sort to act upon it. The mind, then, does not apprehend visual images, the eyes do; the mind apprehends its own images when it dreams, imag-

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γῖσαιτο τὰ ἔξω τὴν ἑαυτῶν φύσιν τοῦ τε χρώματος καὶ τῆς μορφῆς διὰ τοῦ ἀέρος τοῦ μεταξὺ ἡμῶν τε κἀκείνων, οὐδὲ διὰ τῶν ἀκτίνων ἢ οἵων δή ποτε ῥευμάτων ἀφ' ἡμῶν πρὸς ἐκεῖνα παραγινομένων, οὕτως ὡς τύπων τινῶν ἐπεισιόντων ἡμῖν ἀπὸ τῶν πραγμάτων ὁμοχρόων τε καὶ ὁμοιμόρφων κατὰ τὸ ἐνάρμοττον μέγεθος εἰς τὴν ὄψιν ἢ τὴν διάνοιαν, ὡκέως ταῖς φοραῖς χρωμένων, εἶτα διὰ ταύτην τὴν αἰτίαν τοῦ ἑνος καὶ συνεχοῦς τὴν φαντασίαν ἀποδιδόντων καὶ τὴν συμπάθειαν ἀπὸ τοῦ ὑποκειμένου αφζόντων κατὰ τὸν ἐκεῖθεν σύμμετρον ἐπερεισμὸν ἐκ τῆς κατὰ βάθος ἐν τῷ στερμνίῳ τῶν ἀτόμων πάλσεως."

ines, or thinks; and the mind becomes involved in sense-apprehension only in applying a concept to the sense-image or in making a judgment about a sense-image. It is in this latter act of the mind with respect to sense-images (that is to say, in applying a concept or making a judgment)that an error might arise. As Epicurus says:

> And as regards an image which we apprehend by means of the mind directly apprehending or by means of the sense-organs directly apprehending, whether or shape or of properties, the shape is that which belongs to the solid object; it is a thing brought into being by means of the continual concentration of a residual trace of the film. And falsehood and mistake occur as a result of the addition of opinion ⟨to the thing waiting⟩ to be confirmed or the thing which is not contradicted and then is not confirmed ⟨or is contradicted⟩. For that which is a likeness to the images, whether of the sort to be received in an image produced in sleep, produced by means of some other apprehension of the mind, or produced by the remaining means for judging, could never exist among the real things and also be among the things called true, unless there were such things also striking against one. And the mistake could not exist unless we received also some other motion in ourselves similar, on the one hand, to the apprehension of images , but, on the other hand, having a difference. And, owing to this, if it is not confirmed or if it is contradicted, error comes to be: but, if it is confirmed or is not contradicted, truth comes to be.[1]

In the passage cited above Epicurus explains that falsehood arises when the mind adds opinion to an image perceived (the mind asserts, perhaps, that this is a horse) but the opinion is not con-

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[1]H, secs. 50-51: "καὶ ἣν ἂν λάβωμεν φαντασίαν ἐπιβλητικῶς τῇ διανοίᾳ ἢ τοῖς αἰσθητηρίοις εἴτε μορφῆς εἴτε συμβεβηκότων, μορφή ἐστιν αὕτη τοῦ στερεμνίου, γινομένη κατὰ τὸ ἐξῆς πύκνωμα ἢ ἐγκατάλειμμα τοῦ εἰδώλου. τὸ δὲ ψεῦδος καὶ τὸ διημαρτημένον ἐν τῷ προσδοξαζομένῳ ἀεί ἐστιν ⟨ἐπι τοῦ προσμένοντος⟩ ἐπιμαρτυρηθήσεσθαι ἢ μὴ ἀντιμαρτυρηθήσεσθαι, εἶτ' οὐκ ἐπιμαρτυρουμένου ⟨ἢ ἀντιμαρτυρουμένου⟩· ἤ τε γαρ ὁμοιότης τῶν φαντασμῶν οἷον εἰ ἐν εἰκόνι λαμβανομένων ἢ καθ' ὕπνους γινομένων ἢ κατ' ἄλλας τινας ἐπιβολας τῆς διανοίας ἢ τῶν λοιπῶν κριτηρίων οὐκ ἄν ποτε ὑπῆρχε τοῖς οὖσί τε καὶ ἀληθέσι προσαγορευομένοις, εἰ μὴ ἦν τινα καὶ τοιαῦτα προσβαλλόμενα· τὸ δὲ διημαρτημένον οὐκ ἂν ὑπῆρχεν, εἰ μὴ ἐλαμβάνομεν καὶ ἄλλην τινα κίνησιν ἐν ἡμῖν αὐτοῖς συνημμένην μεν ⟨τῇ φανταστικῇ ἐπιβολῇ⟩, διάληψιν δὲ ἔχουσαν· κατὰ δε ταύτην, ἐὰν μὲν μὴ ἐπιμαρτυρηθῇ ἢ ἀντιμαρτυρηθῇ, τὸ ψεῦδος γίνεται· ἐὰν δὲ ἐπιμαρτυρηθῇ ἢ μὴ ἀντιμαρτυρηθῇ, τὸ ἀληθές."

firmed or is contradicted (the object, as it turns out, is not a horse or it is actually a cow). One makes mistakes about the images one receives in sleep or in some other way in the mind, because the images received in that way are similar to the ones that one receives in perception--that is to say, images of real and true objects. Mistakes arise also because of motions in ourselves, such as imagining, dreaming, or perhaps opining also, which are similar to the apprehensions of images but are also in some way different. Such apprehensions are similar enough to sense-apprehension to cause one to make mistakes, but of course there is some difference between mental-apprehensions of this sort and sense-apprehensions.[1]

So far the analysis of what Epicurus says concerning vision indicates that the eyes apprehend an image that is the color and shape of the object. Lucretius, in Book IV of De Rerum Natura, ways that although numerous images strike the eye, they come so quickly that the eye perceives a continuous image. He says, "Herein by no means must we deem there is cause to wonder why, when the idols which strike the eyes cannot be seen one by one, the whole things are descried."[2] This passage provides assistance in interpreting what Epicurus means when he says that " . . . the recurring images are the cause of a single and continuous image," or that the shape is " . . . brought into being by a continuous concentration or a residual trace of the film."[3] A con-

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[1]The movement of the mind in making judgments and opinions will be considered infra, Chapter VII, pp. 155-60.

[2]DRN IV, 256-58.

[3]H, sec. 50. See supra, p. 97, note 1.

tinuous flow of images strikes the eyes, but the eyes do not detect that there are numerous images; rather, the eyes see a single image or an impression (a residual trace as it were) left by the films.

The mind, on the other hand, is not responsible for perception per se, for the act of apprehension on the part of the sense-organs, but for the addition of opinion, which is a movement inside ourselves, similar to the apprehension of images but having a difference as well.[1] Again, films from the surfaces of compound bodies emanate to strike the eyes of the perceiver, causing him to see an image that is more or less the same as the surface of the compound body--less the same when, owing to something like a long distance traversed, the films become distorted.

In section 50, Epicurus begins, saying, "And as regards an image that we apprehend by means of the mind directly apprehending or by means of the sense-organs directly apprehending whether of shape or of properties . . . ."[2] According to the findings of Chapter IV, the properties of compound bodies can only be named by general terms, rather than by particular terms, for example, by the term "color" rather than by the term "this particular instance of light pink"; and only accidents are named by particular terms. Properties are the general characteristics or conditions of compound bodies that permit certain kinds of accidents to happen to such a body. Seemingly, what would be presented to vision in an image would be a particular instance

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[1]H, sec. 51. See supra, p. 97 and note 1 on that page.

[2]Ibid. (emphasis mine).

of color, an accident, and not a general condition of the compound body, a property. It would seem that what is sensed is always particular; thus when, in the above-quoted section, Epicurus speaks of the image directly apprehended by the sense-organs, either he is speaking inaccurately when he goes on to name a "property" as a thing so apprehended (he should have said an "accident") or he has two senses of "property": A narrow and technical sense, the one determined in the previous chapter; and a wider sense, meaning merely qualities of any sort, the one used here.

In support of the second alternative (that Epicurus uses "property" in two ways), one may note Bailey's commentary on Epicurus' use here of "property." Bailey writes: "εἴτε συμβεβηκότων: this refers back to the συμπάθεια of sections 48 and 50. It is the 'corresponding sequence' which gives us the 'accidents', color, movement, etc., of the original object."[1] Bailey is suggesting here that the image preserves the "atomic positions and movements in the original to which are due the qualities of colour, etc., and any incidents of change,"[2] thus permitting us to apprehend the shape or the "properties" of the concrete object. These "properties" Bailey calls "accidents." Or, in other words, Bailey thinks that Epicurus is here using "properties" in a broad sense to mean the kinds of qualities, the particular ones, which actually belong to a compound body and which are transmitted to the perceiver by the image that maintains the position

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[1]Bailey, p. 196.

[2]Ibid., p. 194 (regarding sec. 48, line 10).

and sequence of the atoms as they were on the surface of the body. He calls them "accidents," because accidents are the particular qualities that are so directly apprehended by the sense-organs.

At the same time one might say that a succession of images throughout a period of time, sufficiently long to permit changes in light or motion, would suggest the property (in the narrow sense of the term) of color rather than a particular shade, or of movability rather than a particular motion. This recognition of the property, color or motion, however, would not be a direct apprehension by the eyes, nor a direct apprehension by the mind. That is to say, an image of a property cannot be apprehended; at most, the mind can form a general concept of color suggested by images of different colors. Either Epicurus was using "property" here in the broad sense to mean qualities of any sort or he was, again, suffering from the confusion, noted at the end of the preceding chapter, arising from using general terms to name particular sense-images.[1]

A color is a real perceivable qualitative attribute--an accident--that is apprehended by the eyes. A color exists on the surface of a compound body and traverses the air, from the surface of the body to the eyes, in the form of a film.

Unfortunately, Epicurus does not explain how color is produced from colorless atoms. In a marginal note, however, it is said, "He says in the Twelve Rudiments that color changes with the position

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[1]What one sees is a particular quality; one must infer, somehow, a general quality; for, as was demonstrated in Chapter IV, only particular instances travel to the senses to be received.

of the atoms."[1] If color changes with the position of the atoms then the position of the atoms is relevant to the production of color in a compound body. However, it seems clear, also, that the properties of the atoms, as well as their positions, determine the qualitative attributes of the compound bodies. This may be understood by analogy to the relationship between the properties of the atoms and the properties of texture and density of compound bodies. The properties of the atoms determine whether the compound body that they form is a solid, a liquid, or a gas, not only insofar as the properties of the atoms determine to some extent the ways in which, in a particular combination, the atoms may be linked together, but also insofar as the atoms, by their very smoothness or roughness, by their shapes and sizes, determine directly the attributes of the compound body.[2] By analogy it would seem that the properties of the atoms determine the qualitative attributes of the compound body, both insofar as they determine what combinations may be made in a particular instance, and insofar as they, by their very nature, determine directly the attributes of the compound body. For Epicurus accounts for the changes in compound bodies, in general, in this way: Changes are brought about " . . . by the change of position of some things, and also by the addition and departure of others."[3] Color is a quality of a compound body. Thus, color is

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[1]The note to sec. 44 in H: "τὸ δὲ χρῶμα παρὰ τὴν θέσιν τῶν ἀτόμων ἀλλάττεσθαι ἐν ταῖς Δώδεκα στοιχειώσεσί φησι." I do not know who wrote this note; seemingly, it was someone who was familiar with Epicurus' works.

[2]See supra, Chapter III, pp. 41 and 47-48.

[3]H, sec. 54: " . . . κατα μεταθέσεις ⟨τινῶν⟩, τινῶν δὲ καὶ

owing to position, kinds, and proportions of atoms in the compound body.

This explanation is supported by Lucretius' explanation of colors and their changes. He says:

> Moreover, if the nature of color has not been granted to the first-beginnings, and yet they are endowed with diverse forms, out of which they beget and vary colors of every kind, forasmuch as it is of great matter with what others all the seeds are bound up, and in what position, and what movements they mutually give and receive, you can most easily at once give account, why those things which were a little while before of black color, are able of a sudden to become of marble whiteness; as the sea, when mighty winds have stirred its level waters, it turned into white waves of shining marble. For you might say that when the substance of that which we often see black has been mingled together, and the order of its first-beginnings changed and certain things added and taken away, straightway it comes to pass that it is seen shining and white.[1]

Since color in compound bodies is owing to the shape, position, and interrelations of the colorless atoms composing those compound bodies, there should be some way to explain how, by their shape, size, position, and interrelations, the colorless atoms are able to produce color. But this explanation is not forthcoming in Epicurus' extant writings, neither is it possible to derive an explanation from what he does say.

Epicurus next considers hearing and sound. He says: "Moreover, hearing comes about when a current is carried from the thing speaking, making a sound, making a noise, or the thing causing a sensa- of hearing in any other way."[2] Of the current itself he says:

προσόδους και ἀφόδους."

[1]DRN II, 757-71.

[2]H, sec. 52: "ἀλλὰ μὴν καὶ τὸ ἀκούειν γίνεται ῥεύματός τινος

> And this current divides into particles like the whole. At the same time a similarity of character is preserved by these particles to each other and to the whole current; and the similarity stretches back to the object which emitted the sound, and thus the many [particles] produce perception of that thing [making the sound], or, if not, the particles make manifest only the presence [of the object].[1]

The current is the sound, and each part is the sound (each is like the whole). The current and its parts preserve the sound made and allow the hearer to comprehend the sound made, or at least to recognize the presence of the object making the sound. This must happen, as Epicurus says: "For, without some transference from that place of some similarity, such comprehension as this could not come about."[2]

Epicurus then criticizes the view that the air outside the speaker is molded by his voice, probably because the completely veridical nature of this sort of sensation would be impaired if this were so; rather, one hears the very sound, the very physical objects, which the speaker makes. Epicurus says:

> It is not necessary to suppose, then, that the air itself is arranged by the sound which is uttered or by things of a like kind (for the air will greatly lack being acted upon by the sounds uttered), but, when we send forth a sound, the blow produced in us causes a squeezing out of some particles, producing a stream of something like wind or air, which produces in the hearer the sensation of hearing.[3]

φερομένου ἀπὸ τοῦ φωνοῦντος ἢ ἠχοῦντος ἢ ψαφοῦντος ἢ ὅπως δήποτε ἀκουστικὸν πάθος παρασκευάζοντος."

[1]H, sec. 52: "τὸ δὲ ῥεῦμα τοῦτο εἰς ὁμοιομερεῖς ὄγκους διασπείρεται, ἅμα τινὰ διασῴζοντας συμπάθειαν πρὸς ἀλλήλους καὶ ἑνότητα ἰδιότροπον διατείνουσαν πρὸς τὸ ἀποστεῖλαν, καὶ τὴν ἐπαίσθησιν τὴν ἐπ' ἐκείνου ὡς τὰ πολλὰ ποιοῦσαν, εἰ δὲ μή γε, τὸ ἔξωθεν μόνον ἔνδηλον παρασκευάζουσαν."

[2]H, sec. 53: "ἄνευ γὰρ ἀναφερομένης τινὸς ἐκεῖθεν συμπαθείας οὐκ ἂν γένοιτο ἡ τοιαύτη ἐπαίσθησις."

[3]H, sec. 53: "οὐκ αὐτὸν οὖν δεῖ νομίζειν τὸν ἀέρα ὑπο τῆς

The character of the particles of sound is described by Lucretius when he says:

> Lastly, all things good and bad to the senses in their touch fight thus with one another, because they are built up of bodies of different shapes; lest by chance you may think that the harsh shuddering sound of the squeaking saw is made of particles as smooth as are the melodies of music which players awake, shaping the notes as their fingers move nimbly over the strings.[1]

Epicurus writes only briefly concerning odors and the sense of smell. He says:

> And again, also, one must suppose that odor, just like sound, could never cause any sensation, unless there were certain particles carried off from the object exactly suitable to move this sense-organ, some of them in a confused and foreign manner and others in an unconfused and friendly manner.[2]

And Lucretius tells us that, whether of colors or sounds or odors, the sensations that "charm the senses" must be owing to shapes which have in their "first-beginnings" some smoothness, whereas the harsh and offensive shapes must have been formed with rough substances.[3]

All sensation is effected by means of touch.[4] Vision occurs when the fine configurations of bodies, called "images" or "films", are

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προιεμένης φωνῆς ἢ καὶ τῶν ὁμογενῶν σχηματίζεσθαι. (πολλὴν γὰρ ἔνδειαν ἔξει τοῦτο πάσχειν ὑπ' ἐκείνης), ἀλλ' εὐθὺς τὴν γινομένην πληγὴν ἐν ἡμῖν, ὅταν φωνὴν ἀφίωμεν, τοιαύτην ἔκθλιψιν ὄγκων τινῶν ῥεύματος πνευματώδους ἀποτελεστικῶν ποιεῖσθαι, ἢ τὸ πάθος τὸ ἀκουστικὸν ἡμῖν παρασκευάζει."

[1]DRN II, 408-13.

[2]H, sec. 53: "καὶ μὴν καὶ τὴν ὀσμὴν νομιστέον, ὥσπερ καὶ τὴν ἀκοήν, οὐκ ἄν ποτε οὐθὲν πάθος ἐργάσασθαι, εἰ μὴ ὄγκοι τινὲς ἦσαν ἀπὸ τοῦ πράγματος ἀπαφερόμενοι σύμμετροι πρὸς τὸ τοῦτο τὸ αἰσθητήριον κινεῖν, οἱ μὲν τοῖοι τεταραγμένως καὶ ἀλλοτρίως, οἱ δὲ τοῖοι ἀταράχως καὶ οἰκείως ἔχοντες."

[3]DRN II, 426-30.

[4]See H, secs. 50 and 53.

sent forth from the surfaces of things and strike the eyes; hearing occurs when the bodies, squeezed out of the thing making the sound, strike the ears; and smelling occurs, likewise, when bodies are sent forth from a thing, which has the odor, and strike the nose. Taste and tactile sensations need not be explained by means of the emissions of bodies from things at a distance from the perceiver. One tastes a flavor when the tasted object is in contact with a certain part of one's body.

Atoms are, by their very nature, imperceptible; perceptions must be owing, not to atoms themselves, but, to collections of atoms--collections large enough to be perceivable. When atoms come together in the formation of a compound body, there must be a moment when enough atoms have collected together that a perceivable body exists, or when enough atoms have joined a smaller, imperceptible compound body that the formerly imperceptible becomes perceivable. Both in the formation of a world and within an existing world this process must go on, if compound bodies are to be, and to be perceived. Atoms differ in size: some are very small, some relatively large; so two very small atoms in combination would not necessarily be perceivable. Thus, not all compound bodies are perceivable.

Even though smooth atoms afford one pleasant sensations and sharp atoms afford one unpleasant sensations, it is not owing to the contact of one smooth atom with a perceiving organ that a pleasant sensation occurs. Rather, it is the contact of a combination of atoms, the greater number of which are smooth, with a perceiving organ (which is also a combination of atoms) that explains a pleasant sensation.

The combination of atoms that affects the eyes is an image, the combination of atoms that affects the nose is an odor, the combination of atoms that affects the ears is a sound. So also, in the case of feeling the heat of the live coal or tasting the sweetness of the honey, the combination of atoms that can affect one's body is heat and the combination of atoms that can affect the tongue is a sweet flavor. When one feels the shape of a wooden block, one feels, not every individual atom oscillating in the compound body, but the shape of the compound body; and the shape of the compound body is itself a compound body, a combination of atoms. For the atoms themselves are imperceptible and compound bodies are perceived by means of perceiving their attributes. Thus, to say that compound bodies, such as the chair or the dog, are perceived, is really to say that the compound bodies emanating from them--the sounds, colors, temperatures, and the like--are perceived; and, since they are perceived, we know a dog or a chair is out there.

Qualities, then, are bodies; but they are compound bodies emanating from and associated with other compound bodies, which are their sources. An apple, then, for example, is a compound body that emits in various ways smaller compound bodies that can strike the senses, some as color, some as odor, some as temperature, and so on. Further, Epicurus seems to regard the objects of the various sense-organs to be compound bodies different from each other: The compound bodies we see, the images, are different from the compound bodies we hear, the sounds, and so on. Correlatively, the compound bodies that are sounds, though perceivable by the ear, are not colored, are not

perceivable by the eyes. So it would seem that one is surrounded by the compound bodies that are constantly being emitted from their sources, but one is aware of each of them only by the appropriate sense and, generally, not just as a sensed quality but as a sensed quality belonging to this body or that.[1]

It remains now to draw together what can be said about the relationship between the atoms and the compound bodies such that colorless, odorless, flavorless, silent atoms can produce the colored, odored, flavored, noisy sensations, that is to say, the compound bodies that come to the senses as colors, odors, and the like. It has been noted in Chapter IV[2] that the motion of every atom is of the same speed and that the motion or rest of a compound body is a product of the conflicting directions of the atoms moving within it. The shape of a compound body derives from the configuration (or shape of a group) of shaped atoms. The size of a compound body, likewise, can be accounted for in terms of the size of the configuration of bodies that themselves have size. This much seems reasonable.

A sharp flavor or bright color or pierceing sound, however,

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[1]As the discussion of properties and accidents, in Chapter IV, shows, one generally makes a connection between a quality sensed and the body to which it belongs. (See supra, pp. 63-66; and see H, secs. 69-71.) Occasionally, however, one might, say, smell an odor and be unable to locate the source, visually; or one might even be unable to "place" the source generally. For example, sometimes one might say, "That odor is familiar, I've smelled it before, but I can't remember what it is," (e.g., whether it comes from a garlic bulb or from an onion). One might also have a fleeting glimpse visually and fail to locate the source of the sensation particularly or generally. One might ask, "What was it that just passed by?" or "Is this a dog or a wolf?"

[2]pp. 55-57.

is not owing to the tongue, the eyes, or the ears being struck directly with sharp atoms, since the atoms are imperceptible, but with those very colors, flavors, or sounds that are seen, tasted, or heard. Indirectly, of course, the different attributes of the atoms--their shapes and sizes--cause the differences in perceivable attributes. In addition, the arrangement of the atoms is a factor in the explanation of a perceived attribute. The perceived qualities, however, are not reducible to size, shape, and arrangement of atoms without remainder. Atoms are things that have only the attributes of extension; atoms of a certain sort combine together in a certain way, and suddenly something new comes into being--a color, a sound; and there is no way to explain this occurrence.[1] Although the motion or rest of a compound body is not the same as the motions of the combining atoms but, rather, a product of the conflicting motions, yet this attribute of the compound body is the same in kind as the attribute of the combining atoms which is responsible for this attribute--both attributes are motions. The same may be said of size and shape. But an explanation of the relationship between the quantitative attributes of atoms and the qualitative attributes of compound bodies cannot be made. Epicurus fails to save the appearances in the way that the appearances must be saved if he is to support his own empiricism. The reason he fails is that the atomism upon which he attempts to base his explanation is consistent only with an empirical scepticism such as Democritus held.[2]

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[1]It is suggested that these are emergent qualities. See supra, Chapter III, p. 52, note 2.

[2]Democritus held that knowledge by perception is obscure [see

Epicurus could have made an explanation of color in compound bodies, if he had allowed that the atoms have color, even if the colors of the combining atoms are not the same as those of the compound body. For the mixture of red and yellow pigments produces something new--orange--but like in kind--color--to the the origins of the new quality. A sound, too, can be analyzed with respect to the overtones and undertones that are different in pitch from the sound produced, but like in kind. There are faint odors and flavors, and strong ones. Some seem to be combinations. The flavor of curry is not the same to the palate as the separate flavors of the cloves, turmeric, chilies, and cardamon that are combined to produce it, but they are the same in kind. A rough surface can be made smooth by rubbing, removing the particles or compressing them. Heat is introduced into an object by something hot, fire or sunlight. Something warm, rather than hot, is a combination of hot and cold. One adds cold water to one's bath if it is too hot, but the quality of warmth is the same in kind as its cause: it is a temperature. But the colorless water becomes colored only by the addition of something colored, dye. The very same thing can change color, too, by a change of position of the parts, if the parts are differently colored on different sides, or if the parts, when their position is altered, collect or reflect the light in a way that is different from the way they collected or reflected light previously. For example a

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G. S. Kirk and J. E. Raven, The Presocratic Philosophers (Cambridge: The University Press, 1962), p. 422, Fr. 590]. He also held that perceivable qualities exist only by convention, whereas atoms and the void are real (Diogenes Laertius, Lives of Eminent Philosophers, IX, 45). Epicurus held that perception is veridical and that the perceivable qualities actually belong to the perceived objects.

carpet changes color slightly when one rubs the nap in a different direction.

But Epicurus does not hold that the atoms possess qualitative attributes, and in support of this position, Lucretius claims:

> . . . [T]he more each thing is pulled asunder into tiny parts, the more can you perceive colour little by little fading away and being quenched: as comes to pass when purple is plucked apart into small pieces: when it has been unravelled thread by thread, the dark purple or the scarlet, by far the brightest of colours, is utterly destroyed; so that you can know from this that the tiny shreds dissipate all their colour before they are sundered into the seeds of things.[1]

However, one might argue, quite to the contrary, that just as the colors fade as one increases the distance between himself and an object, so also, one must look more closely at the small threads in order to perceive their color than one must at the larger combination of threads in the whole cloth. Reasoning from sense-perception about the underlying realities can produce a view quite contrary to that of Epicurus and more consistent with the position that perceived qualities are real and that there are imperceptible atoms supporting that reality in which perceived qualities exist. A position that would make a consistent tie-up between Epicurean empiricism and atomism would be that, though the atoms have the qualities of perceived bodies, these qualities of the atoms are imperceptible--but only because they are too small to be perceived! And these qualities of the atoms are unchanging because the atoms are unchanging.

Epicurus, however, failed to remain consistent with what seems to be his starting point, Democritean Atomism. If Democritus

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[1]DRN II, 826-33.

was correct in holding that atoms are qualified only by size, shape, and weight, then color and odor and any other qualities other than size, shape, and weight, are appearances only. If perceivable qualities are real, then atoms must have those qualities.

Let us consider again Epicurus' reasons for holding that atoms have shape, size, and weight but not the other qualites belonging to perceivable things. It is because, he says, the other qualities change but the atoms do not. Further, although the shape of a perceivable thing changes, some shape remains; the perceivable qualites, however, do not remain in the same way.[1]

Beginning from the position that whatever is real is material, Epicurus deduces that the essential qualities of what is real are the qualities of extension and no others. For, although the body changes in shape--even if the body is so reduced that it is no longer perceivable--because it is a body, it must have some shape. On the one hand, Epicurus holds that perceivable qualities really belong to perceivable compound bodies; on the other hand, he holds that because such qualities can totally disappear, they cannot belong to atoms, since the atoms always remain in existence. His arguments, however, are the arguments of one who holds that perceived qualities exist only as perceived, not of one who holds that perceived qualities really belong to compound bodies. For, if shape remains even when changed and even when the size of the object is so small as to be imperceptible, why cannot color be said to remain even though it changes from green to blue or

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[1]See H, sec. 54-55.

becomes so small as to be imperceptible? There is no good reason for not supposing so, except that Epicurus has implicitly accepted Democritus' position concerning the attributes which are not essential to extension--they come and go as they are perceived or not perceived. But extension, he thinks, is essential to bodies.

This reasoning, however, is not consistent with Epicurus' empiricism: Epicurus, in holding that sense-perception is veridical, is holding that the attributes one perceives are really there. And, from the evidence of perception (which is held to be veridical), one would not be led to assert that the fundamental elements have the attributes of extension only: for, by sight one is acquainted with extension only in accompaniment with color, and by touch one is acquainted with extension only in accompaniment with temperature and texture. By smelling, hearing, and tasting one does not know extension at all. That an odor is extended (and Epicurus does hold that it is) is a deduction from the position that all that is real is material and that all contact is by touch. Thus, the contact between the perceiver and the smelled object is held to be effected by physical contact of odor-bodies and the nose.

If the imperceptible is not colored, there is no reason to suppose either that it is extended; and since, on the other hand, it is held that changes in perceivable bodies are effected by changes in the position of the atoms and by the addition of some and the departure of others, there is no reason to deny that different atoms have different perceivable qualities that only gain the strength to be perceived through gathering together in large enough groups to affect the sense-

organs. In addition, perceivable qualities and their changes can be accounted for by the blending of atoms of similar or mixable perceivable qualities and by the dominance of the perceivable qualities of the largest number of atoms in the compound, by analogy to the mixing of perceivable qualities in sense-perceivable mixtures.[1] Or, again, change in perceivable qualities in compound bodies can be accounted for in terms of the change in the mixture through change in position or addition or departure of atoms of different perceivable qualities.

Thus, for example, colors of an object might become brighter in sunlight because the atoms are rearranged by the sunlight so as to show different sides with different colors or because some atoms are added by the sunlight (atoms that have colors different from the colors of the atoms that have departed). There is no reason why the color of a compound body could not be altered because of the addition of more atoms of a certain color, by the action of the sunlight; for the sunlight is itself a combination of atoms--a body composed of atoms raining down.[2] The colors of an object could just as well be altered because the atoms of the sunlight had disturbed the position of the outer layer of the object's atoms so as to permit a different arrangement to come about or so as to permit other atoms, with different colors, to cover the surface of the object. Had Epicurus held that atoms do have perceivable qualities (that is to say, colors, odors, flavors,

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[1]See supra, pp. 110-11.

[2]The sunlight is described by Lucretius as being composed of bodies and as striking entities and thus changing their colors in DRN II, 108, 149-64, and 795-809.

sounds, and temperatures) that can be perceived only when a number of atoms combine together to make a compound sufficiently large enough to be perceived, he could have accounted for the reality of the perceived qualities in terms of a kind of atomism.

However, the unfortunate combination of Democritean Atomism and Epicurean Empiricism is the very cause of two fundamental inadequacies in Epicurus' position that have been identified in this chapter:

(1) Epicurus' Atomism fails to explain the existence and nature of perceivable attributes.

(2) From the (veridical) evidence of perception, one cannot argue to the nature of the atoms as Epicurus describes that nature. For, perception would lead one to the conclusion that, if the atoms are extended, then they are colored, and that, if the atoms are not colored, then they are not extended.

I have identified at least four difficulties in Epicurus' position:

(1) Epicurus' materialism is inadequate to account for the unity and identity of compound bodies insofar as it is the form (the configuration of the atoms), and not the matter (the atoms themselves), on which the unity and identity of compound bodies rests. Since some atoms are always leaving and others taking their places in what seems to be a permanent compound body, its unity and identity depend upon the configuration of the atoms into which the new atoms must fit themselves if they are to be accepted into the compound body.

(2) Although Epicurus indicates that the properties of com-

pound bodies are perceived, the most reasonable conclusion from most of his discussion of properties and accidents is that properties are the way in which the configuration of atoms of the compound body is disposed to have certain accidents. Thus, a property of a compound body cannot be perceived; it is known only by reason's making an inference from the accidents. By such an inference, reason constructs general concepts about the compound body.[1] This means that the permanent nature of the compound body is known directly neither by perception nor by reason.

(3) The only sense of a permanent nature of a compound body that the concepts of properties provide one is the very general sense in which a thing is a body, a visible body, a touchable body, a hearable body, and the like.[2] A concept of such a thing as an individual of a certain natural kind is, like a concept of a property, inferred from the accidental qualities. It is not a concept of an attribute that actually belongs to a compound body but, rather, a shorthand way of making reference to a collection of perceivable qualities--accidents. Unlike concepts of properties or accidents, concepts of this kind have no special objective referents in reality.

(4) The perceived qualities, the accidents, are not explainable in terms of the real things, the atoms.

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[1] I consider the construction of a concept infra, Chapters VII and VIII, pp. 158-59.

[2] The concept of a property has as its referent the disposition of the atoms in the compound body towards being visible or towards having a shape, etc. There is no explanatory framework in Epicurus' position to account for the referent of, for example, the term "man."

In the following two chapters I shall examine further difficulties in Epicurus' position. They are difficulties in Epicurus' account of the soul and its properties and accidents, and they arise because Epicurus attempts to account for the soul and its attributes in a purely materialistic way. Chapter VI is concerned with Epicurus' materialist account of the soul; Chapter VII is concerned with the implications of that account for explaining awareness, will, sentience, concept-formation, and cognition.

CHAPTER VI

EPICURUS' ATOMISTIC ACCOUNT OF THE SOUL

The soul, according to Epicurus, is corporeal, an aggregate of atoms, just as everything else that exists is corporeal. The various attributes of the soul--for example, its being that which causes the movement of the body and that which conceives--are its properties and accidents. The concern of this chapter is to explain Epicurus' materialist account of the soul and its properties and accidents.

Epicurus' first two statements about the soul[1] have been the subject of some dispute among Epicurean scholars.[2] Two representative interpretations of these statements are those of (1) Bailey and (2) Kerferd.

(1) Bailey translates these two statements:

> . . . the soul is a body of fine particles distributed throughout the whole structure, and most resembling wind with a certain admixture of heat, and in some respects like to one of these and in some to the other. There is also the part which is many degrees more advanced even than these in fineness of composition, and for this reason is more capable of feeling in harmony with the rest

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[1]H, sec. 63: "ἡ ψυχὴ σῶμά ἐστι λεπτομερὲς παρ' ὅλον τὸ ἄθροισμα παρεσπαρμένον, προσεμφερέστατον δὲ πνεύματι θερμοῦ τινα κρᾶσιν ἔχοντι καὶ τῇ μὲν τούτῳ προσεμφερές, τῇ δε τούτῳ. ἔστι δὲ τὸ μέρος πολλὴν παραλλαγὴν εἰληφὸς τῇ λεπτομερείᾳ καὶ αὐτῶν τούτων, συμπαθὲς δὲ τούτῳ μᾶλλον καὶ τῷ λοιπῷ ἀθροίσματι."

[2]See G. B. Kerferd, "Epicurus' Doctrine of the Soul," Phronesis, XVI (1971), 80-96. (Hereinafter referred to as Kerferd.)

of the structure as well.[1]

Bailey's translation of the first sentence does not indicate clearly his position and the traditional position that he represents. According to Bailey, Epicurus holds that there are three parts of the soul--a wind-like one, a heat-like one, and a third unnameable one, which is far finer in structure than either of the other two.[2] This interpretation of Epicurus' view on the soul is the received interpretation of the Epicurean scholars.[3] The interpretation is made in light of later Epicurean sources, which say that the soul has four parts--breath, air, heat, and a fourth unnameable one.[4]

(2) Kerferd points out that the language of the first sentence suggests that the soul is a single body. Though the soul is said to have different particles, it is not the particles that are like breath and heat, but the soul itself that is like a blend of heat and breath and is in some respects like the one and in some respects like the other.[5] He suggests that the second sentence be translated,

> ' . . . the part has acquired great mobility (or perhaps 'great capacity for change,' i.e., 'variability') as a result of the lightness of parts of just these things (namely breath and heat).' It is by virtue of its power of variation that it is able to undergo modifications jointly with (συμ- in συμπαθές . . .) the rest of the structure.[6]

As Kerferd rightly points out,[7] Epicurus does not claim in his first statement about the soul (in the letter to Herodotus) that the soul has a wind-like part and a heat-like part (two parts). Rather,

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[1]Bailey, p. 39. [2]Bailey, p. 226. [3]Kerferd, p. 81.

[4]Kerferd, p. 80; Bailey, p. 226. [5]Kerferd, p. 81.

[6]Kerferd, pp. 93-94. [7]Kerferd, p. 81.

Epicurus says that " . . . the soul is a body consisting of small parts diffused through the whole assemblage of atoms, and resembling wind having a sort of mixing of heat; and, it partly resembles the one, and partly, the other."[1] In other words, Epicurus says in the first statement that the soul has not two parts, but that it has one. Kerferd holds that the second sentence concerns that same part, or, in other words, that the soul is completely unitary, a thing which is like wind and heat and a thing which has great mobility.[2]

The received interpretation of Epicurus' first statement about the soul, then, rests not upon the text but derives from an attempt to interpret Epicurus' position in terms of what the later Epicureans said. Kerferd's interpretation rests upon simply what Epicurus says in the first statement. I am in agreement with Kerferd concerning the interpretation of the first statement.

The difference between Kerferd's and the received interpretations of the second statement, however, does not rest entirely upon a difference in view point concerning the relevance of the later Epicurean explanations of the nature of the soul to what Epicurus writes in the letter to Herodotus. It is true that the traditional interpretation of the second statement is used to support the view that Epicurus held that there are three parts of the soul; however, whereas the syntax of the first statement is non-problematic, the syntax of the second statement is not. So, whereas it is clear that Epicurus is not saying in the first statement that there are two parts of the

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[1]H, sec. 63. [2]Kerferd pp. 93-94.

soul, it is not clear what Epicurus is saying in the second statement.[1]

Bailey and Kerferd translate the second sentence differently: (1) Bailey: "There is also the part which is many degrees more advanced even than these in fineness of composition . . . ."[2] (2) Kerferd: "And the part has acquired great mobility as a result of the lightness of parts of just these things (namely, breath and heat) . . . ."[3]

(1) Bailey translates this sentence as though "is" (ἔστι) were existential ἔστι. He supposes that the term "the part" (το μέρος) refers to the third part of the soul. He translates the participle (εἰληφός) as a predicate adjective. He suggests that "πολλην παραλλαγήν" means "a large step in the scale."[4] Apparently, Bailey thinks that "a large step in the scale of fineness of texture (τῇ λεπτομερείᾳ)" implies a comparison between the third part of the soul and what is referred to by the pronoun in the genitive, "these things" (τούτων)--namely, the wind-like part and the heat-like part. The third part, he holds, is many degrees more advanced than the first two parts in respect of fineness of texture.[5]

(2) In his translation, Kerferd supposes that "ἔστι" is being used periphrastically with the participle. According to him, the periphrasis (ἔστι . . . εἰληφός) means "has acquired." According to

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[1]My main concern is with the first part of the second sentence from H, sec. 63: "ἔστι δὲ τὸ μέρος πολλὴν παραλλαγὴν εἰληφὸς τῇ λεπτομερείᾳ καὶ αὐτῶν τούτων . . . ."

[2]Bailey, p. 39.

[3]Kerferd, pp. 93-94.

[4]Bailey, p. 226.

[5]Bailey, pp. 39 and 226-27.

him, then, "the part" (τὸ μέρος) is the subject of this verb. He suggests that the part being referred to is the soul--the soul is a part of the combination of the soul and the body. He holds that "πολλὴν παραλλαγήν" means simply "great mobility" or "great variability"; and that the soul has great mobility as a result of the lightness of parts (τῇ λεπτομερείᾳ). He translates "of just these things" (καὶ αὐτῶν τούτων) as though it were a genitive of possession, which refers to breath and heat. He says:

> The soul while resembling breath mixed with heat is not identical with them, but it does derive one quality from the quality of breath and heat, namely variability resulting from their λεπτομερείᾳ. This it derives from the individual atoms . . . . [We have] an essentially unitary soul built up in a special way from highly mobile individual atoms.[1]

Apparently, Kerferd means that the atoms of the soul, like the atoms of breath and heat, are fine and highly mobile and thus account for the great mobility of the soul, its "sympathetic ease of movement" which is its characteristic quality.[2]

Kerferd disputes the traditional interpretation of the second sentence in respect of two main syntactical points. They concern: (1) The syntax of ἔστι and εἰλικρός and (2) the syntax of πολλὴν παραλλαγὴν εἰλικρὸς τῇ λεπτομερείᾳ.

(1) Concerning the syntax of ἔστι and εἰλικρός, Kerferd says:

> The existential interpretation of ἔστι has also been built into the received interpretation, so that we find translations such as 'there is also the part which . . . .' This will not do if the reference is to the soul as a part of the body . . . . I f is not existential it could be taken with εἰλικρός in the sense 'but the part has acquired . . . .' This periprastic use of the

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[1]Kerferd, p. 94.

[2]Kerferd's arguments occur on pp. 93-94.

> verb 'to be' with a perfect participle would have plenty of parallels. Linguistic features now begin to fall into place. There is no καί before το μέρος, which is something that ought to have been there if the reference were to a part not already mentioned. There is no need for a second article after μέρος (i.e. το . . . είληφός) which is needed on the existential interpretation if the orginal article is retained before μερος.[1]

Kerferd argues that if ἔστι were existential then (a) τὸ μέρος should have been preceded by καί, (b) τὸ μέρος should have been followed by τό.

(a) Apparently, Kerferd thinks that if Epicurus is introducing a new part, the adverbial καί (also) is needed.

(b) Apparently, Kerferd supposes that on the received interpretation, είληφός would have to be an attributive participle. Its attributive position would require, he thinks, that it be preceded by the definite article.

(2) Concerning the syntax of πολλὴν παραλλαγὴν είληφὸς τῇ λεπτομερείᾳ, Kerferd says:

> This differentiation of the "part" is stated to be based on the fact that is it πολλὴν παραλλαγὴν είληφὸς τῇ λεπτομερείᾳ καὶ αὐτῶν τούτων. This is usually interpreted as though πολλήν were πλείω, meaning 'more', and as though the phrase πολλὴν παραλλαγὴν είληφὸς τῇ λεπτομερείᾳ meant πολλῷ λεπτομερέστερον. The reason for this interpretation is the belief that the reference must be to the fourth nature.
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> But--
>
> (a) This is a very elaborate and unnecessary periphrasis. Why not say simply λεπτομερέστερον?
>
> (b) The phrase does not, anyway, naturally have this meaning. The commonest meaning of παραλλαγή is 'change'--very commonly change of position or movement, and often with the idea of 'interchange'. It also frequently refers to a qualitative variation. Moreover it would normally be accompanied by a genitive of that which varies or is varied - so παραλλαγὴν μεγεθῶν in par. 55 of the present letter.[2]

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[1]Kerferd, p. 94.

[2]Kerferd, p. 93.

Kerferd argues (a) that πολλὴν παραλλαγὴν εἰληφὸς τῇ λεπτομερείᾳ is a very elaborate and unnecessary periphrasis for πολλῷ λεπτομερέστερον, (b) that the most common meaning of παραλλαγή is change, change of position or movement, or qualitative variation, and (c) that when παραλλαγή takes a genitive, it takes a genitive of that which varies or is varied.

(a) Kerferd is suggesting here that if Epicurus had intended to describe something as consisting of smaller (or lighter) parts, he would have said λεπτομερέστερον. Since Epicurus did write the more elaborate phrase, he must have intended some other sort of description than this.

(b) Kerferd suggests that what Epicurus intends to express by this phrase is great mobility, great capacity for change, or great variability (as a result of consisting of the lightness of parts of breath and heat).

(c) Apparently, by this third point Kerferd means to say that the genitive in this sentence (αὐτῶν τούτων) cannot be taken to be a genitive with a comparison (which would support the interpretation that the phrase in question concerns something which consists of lighter parts than something else). For when παραλλαγή takes a genitive it is not a genitive after a comparative; rather, accompanied by a genitive, παραλλαγή means "variation." For he adds that " a comparison after παραλλαγή would normally have πρός + accusative, not a genitive."[1]

Although I do not support the received interpretation of

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[1]Kerferd, p. 94.

the first sentence about the soul,[1] I do support, in part, the "received" interpretation of the second sentence.[2] That is to say, I support the view that, in the second sentence, Epicurus distinguishes a finer-textured part of the soul. Before presenting an interpretation of the sentence in question, I shall examine Kerferd's criticisms of the received interpretation and his own interpretation.

(1) Kerferd criticizes the existential interpretation of ἔστι.[3] His fundamental criticism, seemingly, is that if ἔστι is existential, then εἰληφός must be an attributive participle. However, "[t]he present or perfect participle is often used as a simple predicate adjective, especially with εἰμί and γίγνομαι."[4] And, " . . . the participle has the article when it designates the subject itself . . . . But the article is not used when the participle marks a class in which the subject is included."[5] Smyth offers as an example of a case in which the participle has the article, "ἐγω το πρᾶγμ' εἰμι τοῦθ' ὁ δεδρακώς, I am the one who has done this deed."[6] He offers as an example of a case in which the participle does not have the article, "ἦσαν ἀπιστοῦντές τινες Φιλίππῳ, there were some who distrusted Philip."[7] This second example is analogous to Epicurus' "ἔστι δὲ τὸ μέρος πολλὴν παραλλαγὴν εἰληφός." It is not necessary, then, that the

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[1]Namely, that there are two parts, a wind-like one and a heat-like one.

[2]I take Bailey's interpretation to be representative of what Kerferd calls the "received" interpretation and representative of the interpretation against which he argues.

[3]See supra, pp. 122-23, and Kerferd, p. 94. [4]Smyth, #2091.

[5]Smyth, # 2091a. [6]Smyth, #2091. [7]Ibid.

participle have a definite article if it is being used as a simple predicate adjective to mark a class in which the subject is included.

(2) Kerferd suggests that if Epicurus were introducing a new part of the soul he would have said "καί" before "το μέρος."[1] I understand Kerferd to mean by this the adverbial καί (also). Indeed, Epicurus does not say, "There is also the part . . . ." However, his using the adversative conjunction δέ is not inconsistent with his introducing here a new part of the soul, a part not mentioned previously.[2]

There is not, at this point, a stronger argument on syntactical grounds for choosing one of these interpretations over the other. Epicurus could be saying, "But there is the part which has acquired ..." or he could be saying, "But the part has acquired . . . ." It may seem odd that he should choose suddenly to call the soul "the part"; however, one cannot decide on the best translation in terms of the oddity or lack of oddity of a person's choice of terms. However, we have yet to consider what Kerferd calls "a very elaborate and unnecessary periphrasis."

(1) The most common meaning of παραλλαγή, according to Kerferd, is change, mobility, or qualitative variation. From this understanding of παραλλαγή he moves to the interpretation "But the part has acquired great mobility, great capacity for change, or great variability . . . ." This sense of παραλλαγή, he claims, is used by Epicurus in section 55 of the letter to Herodotus and in sections 95 and 113 in the letter to Pythocles.[3]

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[1]Kerferd, p. 94.

[2]Smyth, #'s 2834-2836.

[3]Kerferd, p. 94.

In section 55 of the letter to Herodotus, Epicurus is describing the sizes of the atoms. He says that there are some παραλλαγὰς μεγεθῶν, variations (perhaps) in sizes or differences of sizes, but clearly not qualitative variations (the reference to size rules out that kind of variation). There is not a sense of dynamic variability, mobility, or changeability in this use of "παραλλαγή." The point Epicurus is making in section 55 is, very simply, that the atoms come in different sizes.

In section 95 of the letter to Pythocles, Epicurus is suggesting various ways of accounting for the appearance of the "face" on the moon. One possible account is that it is owing to a παραλλαγὴν μερῶν, a variation of parts. That is to say, perhaps it is because the parts are different from each other that some reflect or give off more light than others. The variation is, in this case, of parts; and although the variation may in this case be qualitative, as it clearly is not in the first case, the variability is not a dynamic one of mobility or changeability, but static. One part simply differs from another.

In section 113 of the letter to Pythocles, the παραλλαγὰς θεωρουμένας, the observed variations or differences, are the changes, differences, or variations in the orbits of the planets. In this case the variations seem to be the irregularities of the paths of the planets or, possibly, variations in the directions and speeds of the planets. In the latter sort of variation we have, perhaps, the sense of variability that Kerferd is using in section 63 of the letter to Herodotus, a variability of motion. However, the additional connotation

of motion comes from the context in which the term is being used--when παραλλαγή is used in the context of the movements of the planets, it can mean variation of movement. In other contexts, however, it seems to mean, fundamentally, "difference." I should point out also, that in this last use of παραλλαγή, Kerferd's "genitive of that which varies or is varied" does not occur at all. And this is not a case of qualitative variation--difference in speed and direction of motion is a quantitative difference.

Thus, so far as concerns Epicurus' use of παραλλαγή in the places cited by Kerferd, we do not find support for his interpretation of the term. We do find, however, the fundamental sense of "difference" running through all three examples--difference of size, difference of parts, and difference of direction and speed of motion--the kind of difference being derived from the context in which the term occurs. In the first two cases the difference is specified in the genitive. In the last case, which is closest to the sense that Kerferd would like the term to have, no qualitative variability is specified in the genitive.

One of Kerferd's objections to the received interpretation of this sentence is that the "very elaborate and unnecessary periphrasis" is being interpreted as though a comparison were being made when a comparison is not being made. His alternative to this comparison is to say that the genitive αὐτῶν τούτων is a genitive of possession which refers to breath and heat in the previous sentence. So he holds that Epicurus is saying that the great variability is a result of the lightness of parts of breath and heat. On the one hand, he holds that

Epicurus says that the soul is not breath and heat but only resembles breath and heat. On the other hand, he holds that Epicurus says that the soul derives its distinctive qualities (lightness of parts and the consequent variability) from breath and heat. What Kerferd recognizes to be an analogy, in the first sentence, he takes quite literally, in the second sentence, to be the source of the lightness of parts and the variability of the soul.

It makes perfectly good sense to translate "ἔστι δὲ τὸ μέρος . . . ," "But there is the part . . . ." And the entire phrase "πολλὴν παραλλαγὴν εἰληφὸς τῇ λεπτομερείᾳ" can be understood to be an adjectival phrase which implies a comparison. "Adjectives of the comparative degree or implying comparison take the genitive. The genitive denotes the standard or point of departure from which the comparison is made . . . ."[1] The adjectival phrase is "which has acquired a great difference in consisting of small parts." The genitive αὐτῶν τούτων, of these very things, which serves as the standard of comparison, refers to the λεπτομερές of the first sentence.[2] The part referred to in the second sentence is distinguished by a difference in respect of the smallness of its parts, which, compared to the parts referred to in the first sentence, are smaller. The remainder of the sentence may

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[1]Smyth, #1431 (emphasis mine).

[2]Although the term λεπτομερές is not in agreement with αὐτῶν τούτων in number, it is in sense; for it is plural in sense. Perhaps because Kerferd was searching for a plural referent of αὐτῶν τούτων chose two things, breath and heat. However, this leads Kerferd to assert that the soul, for Epicurus, is breath with a mixing of heat. It is not consistent to assert both that the soul is not breath and heat and that the qualities of the soul derive from breath and heat.

be translated as follows: "And in respect of this,[1] it interacts more[2] with the remaining aggregate of atoms."[3]

Form these considerations we may conclude, then, that the soul is a body--it is an assemblage of atoms just like any other body (a tree, a dog, a rock). This body is diffused through another body, the "whole assemblage of atoms," that is to say, the human body; and it is composed of small parts. The small parts are not atoms but parts or pieces of the soul, parts that are themselves assemblages of atoms. For Epicurus says that the soul is a body composed of small parts.[4] If he had meant by these "small parts," atoms, then he probably would have said that the soul is an assemblage of atoms[5] composed of small parts (meaning by this, small atoms), rather than, again, a body composed of small parts.

And one part of the soul is a body that most resembles breath with a sort of mixing of heat. This part of the soul is not breath with a sort of mixing of heat, but of all bodies that are not souls and with which we are acquainted by sense-perception (as we are not with souls), breath with a sort of mixing of heat is most like this part of the soul. In some respects this part of the soul has a greater resemblance

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[1]I.e., consisting of smaller parts.

[2]Again, this term implies that one part of the soul is being compared to another. One part of the soul interacts more with the body than the other part.

[3]I.e., the human body.

[4]H, sec. 63: " . . . ἡ ψυχὴ σῶμά ἐστι λεπτομερές . . . . ." (Emphasis mine.)

[5]ἄθροισμα.

to breath, and in other respects, a greater resemblance to heat.

There is a second part of the soul which is composed of parts even smaller that those of the first part of the soul. Because of the smallness of the parts of this second part, it is more sympathetic (than the first part) with the body.

These two parts would perhaps be responsible for two of the main functions of the soul--bestowing life and sentience upon the entity, the human being. Since warmth and breath are the symptoms of living and are absent in the dead body, the first part might be responsible for the organism's being simply alive; it would keep the flesh and blood and organs pulsating, alive. This part perhaps resembles heat insofar as it is responsible for the body's being warm, and breath insofar as it is responsible for the body's being elastic or turgid, or simply insofar as it is responsible for the movements of life--breathing, blood pulsating, and things of this sort.

The part with parts smaller than those of the life-giving part (that is to say, the sentient part) would be responsible for the feelings, sensations, and thoughts of which one is conscious--that is to say, for one's being conscious of the pressure, pain, or heat imposed upon the body, and of the images, sounds, and other sensed qualities imposed upon the body, as well as of the images imposed upon or grasped by the soul without these images being imposed upon the mind via the body or the senses.[1] Since this part is responsible for one's being aware of the emanations imposed upon the sense-organs and of the

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[1]Both of these ways of receiving images were noted <u>supra</u>, Chapter V, pp. 95-97.

pleasures and pains of the body, it must interact or feel sympathetic with the body.

There is a further distinction to be made among the parts of the soul--a distinction between the rational and irrational parts. To understand this distinction, consider a note to section 67 of the letter to Herodotus. It says:

> [Epicurus] says elsewhere also that the soul is composed of the smoothest and roundest of atoms, surpassing by far the atoms of fire; and on the one hand, it is the irrational part of it which is distributed in the rest of the body; on the other hand, the rational part is in the breast, as is clear from both the fears and joys. Sleep comes into being when the parts of the soul that are distributed through the whole of the organism are held fast or scattered. After sleep (or when one is awake), these parts again collide, make contact with one another, because of impacts.[1]

The atoms of the soul are of the smoothest and roundest sort. At this point the atoms themselves are described, rather than the parts of the soul. These atoms are of such a sort that they must be embraced by the (human) body, as will be noted later,[2] if they are to maintain themselves as an aggregate. Their great smoothness and roundness also accounts, perhaps, for the subtle nature of the soul and its attributes.

It is then said that the irrational part is distributed throughout the body and that the rational part resides in the breast. The proof for this latter point is that joy and fear are felt in the

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[1]"λέγει ἐν ἄλλοις καὶ ἐξ ἀτόμων αὐτὴν συγκεῖσθαι λειοτάτων καὶ στρογγυλωτάτων, πολλῷ τινι διαφερουσῶν τῶν τοῦ πυρός καὶ τὸ μέν τι ἄλογον αὐτῆς, ὃ τῷ λοιπῷ παρεσπάρθαι αὐματι· τὸ δὲ λογικὸν ἐν τῷ θώρακι, ὡς δῆλον ἔκ τε τῶν φόβων καὶ τῆς χαρᾶς. ὕπνον τε γίνεσθαι τῶν τῆς ψυχῆς μερῶν τῶν παρ' ὅλην τὴν σύγκρισιν παρεσπαρμένων ἐγκατεχομένων ἢ διαφορουμένων, εἶτα συμπιπτόντων τοῖς ἐπερεισμοῖς."

[2]Pp. 136-38.

breast; thus, the rational part includes, in addition to reason, the passions; and, again, it resides in the breast. The irrational part, on the other hand, is distributed through the body.

The question which arises is whether it is (1) the irrational part that has two parts--breath with a sort of mixing of heat and a finer part than that--or (2) the finer part that has two parts--the irrational (which is distributed through the body) and the rational part (which is located in the breast). The note cited above[1] and the part of the letter that describes the soul as having a breath- and heat-like part and a part finer than that[2] indicate that the dispersed part of the soul has two parts, one, the part like breath with a sort of mixing of heat (the life-giving part), the other finer than this (the irrational part). A third part, the rational part, is not dispersed, but has parts as small as the irrational part. The first two sentences in section 63 of the letter to Herodotus are about the two dispersed parts of the soul. The note is about the division of the finer part of the soul into two parts--rational and irrational.

The reference to sleep makes this division seem reasonable, for the part which is responsible for life in the organism is always operative, whether one is asleep or awake. That is to say, there is life so long as the soul is present, and its symptoms are always much the same--the pulse beats, the body is warm and soft and resilient. But sentience does not always occur. When one is asleep, one does not hear, see, or feel; when one is asleep, as the note tells us, the

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[1]On the page previous to this. [2]See supra, pp. 119, 130-31.

parts of the irrational parts of the soul are inactive, they are held fast or scattered. Afterwards (when one is awake) they interact again. Thus, the soul has three parts: One coarser part and two finer parts.

The irrational part of the soul stands between the body and the rational part (that is to say, the mind[1]), in that it is distributed through the body but composed of small parts like those of the mind. Thus, because it is dispersed through the body, this finer distributed part of the soul can receive sensations, wherever they strike the body, and then transmit them to the mind. Because it is fine, it can receive such subtle things as sensations. Because it is like the mind, it can receive what the mind itself is capable of receiving (that is to say, sense-impressions). Indeed, as will be seen later,[2] the mind receives sense-impressions because the irrational part of the soul transmits them to the mind. This finer distributed part is also instrumental in voluntary physical acts.[3]

In receiving and transmitting sensations, and in transmitting the commands of the mind to the body, this finer distributed part of the soul must feel more sympathetic with, or interact with, the body and the mind, whereas the coarser life-giving part of the soul proceeds less by interaction or sympathy. The life-giving part of the soul does respond to or interact with the body, but, rather, performs its function, perhaps, by automatically and constantly bringing about a certain

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[1]Rather than use the cumbersome expression "the rational part," I shall use, when convenient, the term "the mind." There is no dialectical point to be gained by the difference of terminology.

[2]See infra, pp. 138-40. [3]See infra, p. 140.

condition in the body, keeping certain parts of the body in motion. The finer distributed part, however, must interact with the body with respect to the subtle sensations received through the parts of the body that are themselves subtle enough to be receptive of sensations, and it must be fine enough to receive what it must ultimately transmit to the fine part that is the mind. Thus, the finer distributed part is suited, as the coarser life-giving part is not, to function in sensation. I have described two parts of the soul, so far as concerns material composition, and three parts, so far as concerns function.

The reasons for ascribing these material qualities to the parts of the soul are explained by Epicurus next. He writes, "And the powers of the soul and the feelings and the mobility and the processes of thinking and that which is lost when we die make all this clear."[1] (1) Sin the soul has the power to move the body, it must be diffused throughout it so that the soul can make contact with whatever it moves. And what permits (or empowers) the soul to interact with the rest of the aggregate of atoms is its fineness and the diffusion of its parts. (2) The mobility[2] of the soul in sensation and thinking requires that

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[1]H, sec. 63: "τοῦτο δε πᾶν αἱ δυνάμεις τῆς ψυχῆς δῆλον ⟨ποιοῦσι⟩ καὶ τὰ πάθη καὶ αἱ εὐκινησίαι καὶ αἱ διανοήσεις καὶ ὧν στερόμενοι θνήσκομεν."

[2]It is true that Epicurus holds that the soul has great mobility, and he says so quite straightforwardly here. Indeed, it is undoubtedly the case that the mobility of the soul is owing to the smallness of its parts, and the greater mobility of the part responsible for thought to the greater smallness of its parts. For, just as with the images, which can move through the air very quickly because they are fine and are not slowed down very much by internal collisions, so also the small parts of the soul, being small and thus composed of fewer atoms than most other things, will not be slowed down very much, by internal collisions, in their movements.

the soul be composed of very small parts what can move quickly,[1] as they must do in sensation and thought; and they must be small enough to interact with the subtle sensations and thoughts. Since one feels sensations all over the body, the soul must be diffused throughout it, since, as will be made clear next,[2] the soul is the cause of sensation. (3) Lastly, when one dies, one loses, in addition to sensation, breath and heat.

Epicurus then goes on to discuss the relationship between the soul and the body. "The soul has the greatest cause of sensation . . . yet it could not possess this if it were not in any way at all embraced by the rest of the aggregate of atoms."[3] The atoms of the soul must be embraced (or covered or enclosed) by the aggregate of atoms that is the body, if the soul is to possess sensation. The power of sensation is brought about in the soul in virtue of its being embraced by the rest of the aggregate of atoms.[4] The atoms of the soul must be so embraced, perhaps, because they (that is to say the soul atoms) are too round and smooth, and because they are too few, to collide in a way by which they could form a compound without an enclosure.

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[1] It is important to note that since Epicurus holds that the atoms all move at an equal rate of speed, one cannot suppose that he thought that the atoms of the soul have greater mobility than other atoms. Kerferd, for example, makes this mistake (p. 94).

[2] See infra, this page to page 138.

[3] H, secs. 63-64: "καὶ μὴν καὶ ὅτι ἔχει ἡ ψυχὴ τῆς αἰσθήσεως τὴν πλείστην αἰτίαν, δεῖ κατέχειν· οὐ μὴν εἰλήφει ἂν ταύτην, εἰ μὴ ὑπὸ τοῦ λοιποῦ ἀθροίσματος ἐστεγάζετό πως."

[4] H, sec. 64.

When these atoms are embraced, however, the organization of the combining atoms is such that the soul comes into being. At the same time, sensation can only occur in a compound made of these very round and smooth atoms organized in a certain way. Thus, if the body does not enclose the soul atoms, the organization of soul atoms cannot take place; and since these are the very sorts of atoms needed to produce a sentient soul, the soul cannot exist outside of the body. Thus, although the soul is the greatest cause, the principal cause, of sensation, the body, too, shares in causing sensation, since sensation is dependent upon the soul atoms being embraced by the body and organized by the embracing body.

Sensation occurs only when atoms of this sort are arranged as they are when embraced by the body. Still, the soul is the principal cause of sensation, since the body would not be receptive to the emanations if there were not a soul in that body: the body becomes receptive only when ensouled.[1] The soul has sensation, though some part of the body be lost; it continues to have sensation so long as it exists; but if the body is disturbed in such a way as no longer to act as a covering for the atoms which constitute the soul, then the soul will be destroyed, its atoms dispersed.[2] "For one is not able to think of the soul perceiving if it is not in this composite and using these motions, when the covering and surrounding in which the soul has its being and movements is not such as it was."[3] The very existence of the

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[1]H, sec. 64.

[2]H, sec. 65.

[3]H, sec. 66: "οὐ γὰρ οἷόν τε νοεῖν αὐτὸ αἰσθανόμενον μὴ ⟨ὂν⟩ ἐν τούτῳ τῷ συστήματι καὶ ταῖς κινήσεσι ταύταις χρώμενον, ὅταν

soul and its motions, which account for sensation, require that the atoms of which the soul is composed be enclosed in the body.

Further, Epicurus says: "While the body provides the cause of sensation in the soul, also the body has a share in sensation from the soul. Yet, the body does not have a share in all of the attributes which the soul possesses."[1] Not only does the soul, by being contained, become the greatest cause of sensation, but also the body by its association with the soul, has a share in sensation, the soul being the source. But, Epicurus says, the body does not have a share of all the things that the soul has acquired.

The question that arises, and which Epicurus does not answer, is, in what sense does the body have a share of sensation? One obvious answer which suggests itself is that the organs of sense acquire sensation insofar as, when the soul is present in a body, they are able to receive the subtle emanations of perceivable attributes from external objects. Thus, when the soul is in the body, the eyes are sensitive to visual images, the ears to sound, the body to pressure, temperature, texture, and the like, the nose to odor, the tongue to flavors. Then, perhaps, the transmission of the sensation from the eyes to the rational part is performed by the irrational part, so that the rational part can take account of the images of sense.

The body has a share in sensation only in its association

τὰ στεγάζοντα καὶ περιέχοντα μὴ τοιαῦτα ᾖ, ἐν οἷς νῦν οὖσα ἔχει ταύτας τὰς κινήσεις."

[1]H, sec. 64: "τὸ δὲ λοιπὸν ἄθροισμα παρασκευάσαν ἐκείνῃ τὴν αἰτίαν ταύτην μετεῖληφε καὶ αὐτὸ τοιούτου συμπτώματος παρ' ἐκείνης, οὐ μέντοι πάντων ὧν ἐκείνη κέκτηται."

with the soul and the soul has sensation only when embraced by the body. Thus, again, the body has a share in sensation when associated with the soul at least insofar as the body is receptive to emanations when associated with a soul and is not receptive when the soul is gone. But the body is receptive principally for the soul, as will be shown,[1] since it is the soul which, in the rational part, responds to perceived qualities in forming concepts, making judgments, or feeling joy, fear, or sorrow. And these latter attributes, which the soul acquires by being embraced, the body does not share in.

The eyes, then, receive the color; the rational part of the soul judges that it is red. The rational part of the soul is also what is responsible for judging that this color belongs to the very same object which has a certain odor, or makes a certain sound. In other words, the rational part of the soul joins together the qualities, which have been received separately by the separate sense-organs, and judges that they all belong to the same object.[2]

Since the sensitivity of the body is owing to its association with the soul, it is perhaps to the finer part of the soul that is dispersed throughout the body that the body owes its share in sensation, since, according to Epicurus' materialist account, all action of one thing upon another requires that there be physical contact of that one thing with that other. This requirement that all acts of the soul take place through physical contact is shown in Epicurus' argument

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[1] Infra, Chapter VII, pp. 178-79.

[2] See Life, secs. 32-33.

that the soul is not incorporeal. He argues that the only thing which is incorporeal is the void. The void can neither act nor suffer. The soul does act and suffer; thus, the soul cannot be incorporeal.[1] Thus, if the soul is to be a source of the body's sharing in sensation, this sharing in sensation would have to be brought about by direct contact of soul with body, and this contact would be the contact of the dispersed irrational part of the soul with the body.

Next, it would seem that when the mind makes a judgment about qualities received by the senses, those qualities would have to be transmitted, again physically or by physical contact, to the rational part from the senses. The irrational part would perform this function.

And, lastly, it would seem that when the soul decided or willed that the body should move in some way or another, the irrational part of the soul would have to transmit this command or impetus to move from the rational part of the soul to the body. The mechanics of these transmissions will be considered in Chapter VII.

In summary, then, this much has been suggested:

(1) The life-giving part of the soul is responsible for the body's being a living, pulsating entity.

(2) The ensouled body is receptive to emanations and thus has a share in sensation.

(3) The irrational part of the soul is responsible for making contact with the body so that the body is receptive or sensitive to emanations.

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[1]See H, sec. 67.

(4) The irrational part of the soul might also be responsible for transmitting what is received by the senses from the receptive body to the rational part of the soul (for the sake of judgments), and for transmitting the decisions or volitions from the rational part of the soul to the body (in order to move the body at the bidding of the soul). This transmission would be necessary if all that occurs must occur by physical contact.

All of these point are indicated by what the note to section 67 says about sleep.[1] There it is said that sleep occurs when the parts of the irrational part of the soul are carried apart or held fast. When one sleeps the mind does not receive qualities from the senses, nor does the body respond to the mind's commands, though the body does go on functioning as a living thing. The mind does not receive qualities from the senses or move the body as it wills because the dispersed irrational part of the soul is not in a condition to transmit sensations or commands; it is scattered apart or held fast. At this time, the mind is more likely to attend to the images that are too fine to be received by the eyes and that emanate directly to the soul.[2] When this happens, one dreams.

Thus, there seem to be, on Epicurus' account, three separate functioning parts of the soul. Two are closely involved in the operations of the body--one giving life; the other, sensation. The relationship of the mind to the body is indirect, the relationship being

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[1]See supra, p. 132, note 1.

[2]See supra, Chapter V, pp. 95-97, and H, secs. 49-51.

effected by the irrational part of the soul. The mind is the seat, not only of reasoning, but also of feeling and will.

Epicurus' view that the soul comes into existence and becomes the cause of sensation only when enclosed in the body is significant in two ways:

(1) It is significant for Epicurus' Ethics.[1]

(2) It is significant for his Psychology.[2]

(1) According to Epicurus, the business of ethics is to remove the unnecessary pains both of the soul and of the body, in order to improve the quality of life. He holds that fear of death is one of the great causes of pain to the soul, and he thinks that one can remove this pain by properly understanding death. If one can understand that after death one feels no longer--one exists no longer and thus cannot suffer--Epicurus thinks that one will not fear death.

One exists no longer at death because the atoms of the soul are dispersed once they are not embraced by the body; when the atoms that make up a compound body are no longer combined together, that compound body no longer exists. When the atoms of the soul are dispersed, the soul exists no longer. Further, when it is not contained in the body the soul has no feelings, endures no suffering, since being contained is the necessary condition for the soul's sentience. Of course, since the soul goes out of existence when its atoms are dispersed, it could not suffer after death.

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[1]Because of the nature of the soul, death is nothing to us (see M, sec. 124).

[2]By being embraced the soul becomes sentient (see H, sec. 64).

(2) According to Epicurus' Psychology, when the soul becomes enclosed, it is the moment, in the order of explanation, when sentience comes into existence. By being embraced, the soul becomes the greatest cause of sensation; that is to say, by being embraced, the soul atoms form a compound body which is the cause of sensation. Such a compound body comes into existence only by being embraced. Further, the smoothness and roundness of the soul atoms are not enough to account for sentience; but when atoms of this sort are enclosed by the body, sentience occurs.

Thus, again, just as it is necessary in the realm of perceivable things for atoms of a certain sort to be arranged in a certain way, if they are to be a certain compound body with its "perceivable" properties, for example, a visible object and its color or a hearable object and its sound; so also, when other sorts of atoms, very round and very smooth ones, are combined in a certain way (embraced by a human body), another sort of compound body and its properties, a soul and its properties of sentience, come into existence.

Just as in the case of perceivable bodies and their accidents, when certain kinds of atoms combine in a certain way something new comes into existence, a color, a sound--things not reducible to colorless and soundless extensions--; so also in the case of the soul, and its accidents, when certain kinds of atoms combine in another way, something else new comes into existence, acts of sensation and acts of thinking. And these acts of sentience and thinking, too, cannot be reduced to moving bits of matter, as will be demonstrated in Chapter VII.

By analogy to the properties and accidents of perceivable compound bodies, I understand the properties of the soul to be its being disposed towards certain kinds of acts (such as thinking, willing, feeling, and sensing). These acts all seem to be acts of awareness.[1] The life-giving functions of the soul seem not to be acts of awareness. I understand the accidents to be the particular acts of awareness and the particular life-giving activities. I shall give an account of these accidents of the soul in Chapter VII.

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[1]Awareness is examined <u>infra</u>, Chapter VII, pp. 174-87.

CHAPTER VII

ACTS OF AWARENESS

At the end of his discussion of the soul, Epicurus says that one will be able to see what is entailed by the general principles of his theory of the soul and to work out the details of this theory if one refers one's considerations to feelings and sensations.[1] Having explicated the general principles of the soul (in the previous chapter), I shall now work out the details, in order to discover whether Epicurus' account of the soul is adequate to explain the feelings, sensations, and thoughts which we experience. I am concerned to determine the explanation of how an aggregate of insentient and unthinking atoms can be sentient and thinking. Presumably, one should be able to work out how these things are explained, in general and in detail, by appealing to the atomic theory, the accounts of thinking and perceiving, and the general account of the soul.[2]

In Chapter V, some acts of awareness were considered. It was established that sensation requires physical interaction between

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[1]H, sec. 68.

[2]The fact that such an account cannot be given in modern atomic theory does not invalidate my work here. For I am measuring a philosophical account of the soul for adequacy in terms of what its originator claims it can explain.

bodies. In vision, films emanate from bodies and strike the eyes. In hearing, sound particles emanate from bodies and strike the ears. In smelling, odor particles emanate from bodies and strike the nose. Taste and touch are effected by the physical contact of the palate or the body with other bodies. The films, the sound particles, and the odor particles are corporeal entities, aggregates of atoms. The eyes, ears, and nose are corporeal entities, aggregates of atoms. So also are the palate (which tastes) and the body (which receives tactile sensations) corporeal entities interacting with other corporeal entities; all of them aggregates of atoms.

Similarly, in Chapter V, two acts of the mind were accounted for by physical contact: they are dreaming and imagining. These acts of the mind are brought about when images or films which are too fine to be received by the eyes are received directly into and attended to by the mind. In such cases, then, mental apprehension, like sense apprehension, requires that there be physical contact between two corporeal entities (in this case they are images, which are corporeal, and the soul, which is corporeal). In order to give a complete explanation of Epicurus' view on mental apprehension, it is necessary to inquire whether Epicurus holds that there are other acts of the mind besides these and, if so, whether they can be explained in terms of physical contact of bodies.

In order to determine what other acts of the mind there are besides dreaming and imagining, according to Epicurus, consider (1) the uses of the mind that Epicurus makes, (2) what uses of the mind he says there are, and (3) what Diogenes Laertius, in his account, adds con-

cerning this question.

(1) Epicurus himself thinks about things which cannot send films to the mind. First, he considers the imperceptible: the nature of the atoms, the void, the interaction of the atoms, and matters of this sort.[1] Second, he considers things on a general level, both the perceivable and the imperceptible. He makes general statements about the aggregates of atoms and their properties and accidents, and he considers the atoms, in general--for example, that they are always in motion.[2] Third, he makes inferences from particular and general statements. For example, he infers, from general truths about bodies, that nothing can come to be from nothing.[3]

(2) Epicurus says that we have instruments of judgment,[4] that we obtain images by an act of apprehension on the part of the mind,[5] that we opine,[6] that we hold things in memory.[7] He further says that we grasp and keep general principles in memory.[8]

(3) Diogenes Laertius speaks of Epicurus' view concerning making inferences, and he accounts for the generation of thoughts (or ideas or conceptions) from sensation by experience, analogy, similarity, or combination (reason contributing something, too).[9]

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[1]See supra, Chapter II and H, secs. 54-62.

[2]That he considers such things can be readily seen in the entire letter to Herodotus; and the letter is, indeed, as he says, "an epitome of the whole philosophical system" (H, sec. 38).

[3]H, secs. 38-39. [4]H, sec. 38. [5]H, sec. 50.

[6]H, sec. 50. [7]H, sec. 50.

[8]H, sec. 36. [9]Life, sec. 32.

In addition, Epicurus holds that men engage in voluntary acts of choice and avoidance.[1] Although he does not consider free will in particular, in the letter to Herodotus, he assumes free will in the letter to Menoeceus.[2] Lucretius does account for the will.[3] I shall appeal to his account later in this chapter.

The material nature of the soul was examined in Chapter VI; the physical contact affording the body sensation of emanations and the physical contact affording the mind direct perception of images (without the intervention of the sense-organs) were examined in Chapter V. Various other acts that Epicurus attributes to the soul have just been noted.

These last acts do not always have as their objects emanations coming directly from bodies either to the sense-organs or to the mind. In some cases, the mind acts with respect to what are called concepts. In order to determine whether a materialist account of these acts of the mind can be given, it is necessary to determine the nature of these concepts. Consider what Epicurus says concerning the foundation of knowledge.

> First, then, Herodotus, it is necessary to have detected the things associated with words,[4] in order that we might have references to consider in regard to these opinions held or matters of inquiry or puzzles before us, and in order that they might not be confused to us--pointing away to infinity--or that we might not have empty sounds. For it is necessary that the first notion be seen in relation to each word and not stand in need of a demonstration besides, if we shall understand the matter of inquiry or puzzle

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[1] See M, secs. 128 and 133.

[2] Ibid.

[3] DRN II, 251-93.

[4] "φθόγγος" means, literally, "sound."

> before us, to which we shall return. Furthermore it is necessary to preserve absolutely all things in accordance with sensations and particularly with the present acts of direct apprehension, whether of the mind or of any one of the instruments of judgment whatever, likewise also in accordance with the emotions actually present in us, in order that we might have the things by which we shall examine both the thing waiting to be confirmed and the imperceptible.[1]

Epicurus holds that if words are not to be meaningless it is necessary to detect the things associated with words, the referents of words. It is the first notion which must be seen in relation to each word, and these first notions do not need demonstration. A word is meaningless if it is an empty sound (a sound actually having nothing associated with it) or if it does not have the appropriate sort of thing associated with it but rather points only to another word or set of words which in turn point to others, ad infinitum. A word needing a demonstration also points to other words; and because it points to other words, rather than to a sensation, concept, or feeling, it does not have a first notion.

The things associated with words are (1) sensations, (2) concepts, and (3) feelings. When one has these first notions then one can make examinations or inferences concerning the things waiting to be confirmed, that is to say, imperceptible things and

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[1] H, secs. 37-38: "πρῶτον μὲν οὖν τὰ ὑποτεταγμένα τοῖς φθόγγοις, ὦ Ἡρόδοτε, δεῖ εἰληφέναι, ὅπως ἂν τὰ δοξαζόμενα ἢ ζητούμενα ἢ ἀπορούμενα ἔχωμεν εἰς ταῦτα ἀναγαγόντες ἐπικρίνειν, καὶ μὴ ἄκριτα πάντα ἡμῖν ⟨ᾖ⟩ εἰς ἄπειρον ἀποδεικνύουσιν ἢ κενοὺς φθόγγους ἔχωμεν. ἀνάγκη γὰρ τὸ πρῶτον ἔννοημα καθ' ἕκαστον φθόγγον βλέπεσθαι καὶ μηθὲν ἀποδείξεως προσδεῖσθαι, εἴπερ ἔξομεν τὸ ζητούμενον ἢ ἀπορούμενον καὶ δοξαζόμενον ἐφ' ὃ ἀνάξομεν. ἔτι τε κατὰ τὰς αἰσθήσεις δεῖ πάντα τηρεῖν καὶ ἁπλῶς ⟨κατα⟩τὰς παρούσας ἐπιβολὰς εἴτε διανοίας εἴθ' ὅτου δήποτε τῶν κριτηρίων, ὁμοίως δὲ κατὰ τὰ ὑπάρχοντα πάθη, ὅπως ἂν καὶ τὸ προσμένον καὶ τὸ ἄδηλον ἔχωμεν οἷς σημειωσόμεθα."

things about which judgments or inferences can be confirmed by perception.[1] The first notions associated with words by sensation are clearly the emanations received, but in order to determine what the first notions apprehended by the mind are, it is necessary to examine a passage from Diogenes Laertius. He says:

> [The Epicureans] reject dialectic as unworthy or unfit, and redundant. For it is sufficient for the physicists to proceed according to the sayings or sounds of things. Thus, in the Canon Epicurus is saying that the standards for judging the truth are the sensations and previous notions or conceptions and the feelings; and also, the Epicureans say that a standard for judging the truth is the apprehension of the mind which is able to produce the appearance. And also, he himself says this in the letter to Herodotus and in the Principal Doctrines. For, he says, all sensation is irrational and is not at all capable of memory. For it neither moves by itself nor, being moved by another, is it able to add something or take something away. Neither is there a thing able to refute these: For a similar sensation can neither refute a similar one because of equivalence; nor can a dissimilar sensation refute a dissimilar one, for they are not the standards of the same things. Nor, again, can reason refute a sensation, for all reason depends upon sensations; neither can one refute another, for we attend to all equally. And also the existence of perceptions make trustworthy the truth of sensations. And, also, our seeing and hearing exist as much as pain. Whence, concerning the imperceptible, one must make inferences from the things perceived. For all thoughts come into being from sensation by means of experience and analogy and similarity and combination, also something being contributed by reason. . . .
>
> And they speak of the thought as if a direct apprehension or a right opinion or a conception or a general concept stored up that is a memory of something that often is presented from without; as, for example, "Such and such is a man." For, if the perceptions go first, immediately when "man" is mentioned, one knows the form of him by a previous conception. Accordingly, the first significance of every word is distinct.[2]

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[1]Epicurus does use concepts drawn from perception to explain the imperceptibles (see supra, Chapter II, pp. 15-25).

[2]Life, secs. 31-33: "τὴν διαλεκτικὴν ὡς παρέλκουσαν ἀποδοκιμάζουσιν. ἀρκεῖν γὰρ τοὺς φυσικοὺς χωρεῖν κατὰ τοὺς τῶν πραγμάτων φθόγγους, ἐν τοίνυν τῷ Κανόνι λέγων ἐστιν ὁ Ἐπίκουρος κριτήρια τῆς ἀληθείας εἶναι τὰς αἰσθήσεις καὶ προλήψεις καὶ τὰ πάθη οἱ δ' Ἐπικούρειοι καὶ τὰς φανταστικὰς ἐπιβολὰς τῆς διανοίας. λέγει

According to Diogenes Laertius, Epicurus holds that the source of concepts is sensation. A concept of a certain sort is the first significance of a word; it is derived from sensation when something is often presented from without so that a concept can be formed and stored up; it is what is associated with a word. Since sensation does not have memory, it is necessary for the mind (which does have memory) to store up the sensations, which come from without, and their accompanying words, so that, when one hears a word, the mind can produce the appearance associated with it and directly apprehend that appearance.

Diogenes Laertius tells us that the concepts are derived from sensation by experience, analogy, similarity, and combination; reason contributing something too.[1] We experience things together or in a certain series, and thus we have a concept, the first significance of

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δὲ καὶ ⟨αὐτὸς⟩ ἐν τῇ πρὸς Ἡρόδοτον ἐπιτομῇ καὶ ἐν ταῖς Κυρίαις δόξαις. πᾶσα γάρ, φησίν, αἴσθησις ἄλογός ἐστι καὶ μνήμης οὐδεμιᾶς δεκτική· οὔτε γὰρ ὑφ' αὑτῆς κινεῖται, οὔτε ὑφ' ἑτέρου κινηθεῖσα δύναταί τι προσθεῖναι ἢ ἀφελεῖν. οὐδὲ ἔστι τὸ δυνάμενον αὐτὰς διελέγξαι οὔτε γὰρ ἡ ὁμογενὴς αἴσθησις τὴν ὁμογενῆ διὰ τὴν ἰσοσθένειαν· οὔθ' ἡ ἀνομογένεια τὴν ἀνομογένειαν, οὐ γὰρ τῶν αὐτῶν εἰσι κριτικαί· οὔτε μὴν λόγος, πᾶς γὰρ λόγος ἀπὸ τῶν αἰσθήσεων ἤρτηται· οὔθ' ἡ ἑτέρα τὴν ἑτέραν, πάσαις γὰρ προσέχομεν. καὶ τὸ τὰ ἐπαισθήματα δ' ὑφεστάναι πιστοῦται τὴν τῶν αἰσθήσεων ἀλήθειαν. ὑφέστηκε δὲ τό τε ὁρᾶν ἡμᾶς καὶ ἀκούειν, ὥσπερ τὸ ἁλγεῖν. ὅθεν καὶ περὶ τῶν ἀδήλων ἀπὸ τῶν φαινομένων χρὴ σημειοῦσθαι. καὶ γὰρ καὶ ἐπίνοιαι πᾶσαι ἀπὸ τῶν αἰσθήσεων γεγόνασι κατά τε περίπτωσιν καὶ ἀναλογίαν καὶ ὁμοιότητα καὶ σύνθεσιν, συμβαλλομένου τι καὶ τοῦ λογισμοῦ. . . .

Τὴν δὲ πρόληψιν λέγουσιν οἱονεὶ κατάληψιν ἢ δόξαν ὀρθὴν ἢ ἔννοιαν ἢ καθολικὴν νόησιν ἐναποκειμένην, τουτέστι μνήμην τοῦ πολλάκις ἔξωθεν φανέντος, οἷον τὸ Τοιοῦτόν ἐστιν ἄνθρωπος· ἅμα γὰρ τῷ ῥηθῆναι ἄνθρωπος εὐθὺς κατὰ πρόληψιν καὶ ὁ τύπος αὐτοῦ νοεῖται προηγουμένων τῶν αἰσθήσεων. παντὶ οὖν ὀνόματι τὸ πρώτως ὑποτεταγμένον ἐναργές ἐστι."

[1]The contribution of reason is apparently either to note the order of experience, the similarities, the analogies, or to make new combinations and note them.

the word associated with that series of images; the concept is those images together in that way or in that series. In addition, reason can note similarities or analogies, and reason can make new combinations of images. Since Epicurus employs general concepts and concepts of the imperceptible, and since he holds that concepts are derived from sensation, his account of the acquisition of these concepts must be something like the following:

A certain particular emanation is received by a sense-organ; if the mind is to take account of that perceived accident, the accident must be transmitted to the mind where the mind can attend to it. The mind may then store in memory that accident. Sensation itself does not admit of memory; yet if concepts are to be derived from sensation by the various modes of combining, the sensations must be stored for that purpose. Thus, the mind must apprehend such sensations and store them in memory, if they are to be used in the forming of concept.

Once the mind has stored in memory some sensations, it can then attend to those sensations in various ways: in various combinations or according to similarities or analogies, or according to the ways in which the sensations come together in being received, that is to say, the way they are experienced.

Associated with the emanations are words, sounds heard along with the sensations; and these are stored along with the concepts with which they are associated. Once the mind has some general concepts and the associated words, it may produce them from memory, directly apprehend them along with the words associated with them, and use

them to judge of new sensations which come to the attention of the mind. One may judge whether the new sensations are of one sort or another and whether to call a thing by one name or another.

To have a concept of red, with which one associates the word or sound "red," one would probably, after storing together a number of times in memory sensations of red and sounds "red," begin to note the similarity of new instances of that color and that sound, and, eventually, grasp the significance of the sound. Thus, that sound would call to mind one of the similar images of red stored in memory. In addition, a new image of red similar to the ones stored in memory would bring to mind the sound "red," which has been stored in memory together with one or some other images of red.

More complex combinations of sensations and the word or words associated with them would be acquired, stored, and used in a similar way. According to an analogy of form, the soul might compare the image of one horse with that of another, or of one cow with that of another, and thus form the concept of a horse or a cow.

According to this analysis of Epicurus' view on conception and judgment, the mind does not have a general or abstract concept per se (that is, a concept which is not a particular image or set of images). Rather, a general term is understood when the mind notes similarities between particular images and learns the general term which goes with those images, images similar to or analogous to one another in some respect or respects.

Concepts are derived from sensation; what the mind contributes, in conceptualization or in forming a concept, is noting or

discovering the similarities, analogies, or combinations which are presented or can be made when two or more images are present to it. Further, it is the mind which associates words with images. And the mind, when presented with an image like some which have been presented in the past, can grasp from memory an image similar to the present one and the word associated with it. Such a sense-image is the first sense of the word; it underlies the word. Given the first senses of words, the mind can, by a comparison of images, determine the relations between them for the sake of affirming or denying opinions, making inferences, and the like. Diogenes Laertius also says that the mind can be said to have an apprehension when it produces an appearance;[1] this means that the mind can call up a concept.

Even concepts of imperceptibles are images, it seems; for Epicurus' explanations of the imperceptibles are by reference to the bodies we can see and feel, and their attributes. For example, he explains the minimum extension of atoms by analogy to perceivable extensions;[2] and he argues that the universe is infinite and is composed of atoms and the void by appealing to perception and then generalizing and inferring from statements about perception.[3] The acts of the soul are described as motions. The qualities of the soul are explained by analogy to wind with a sort of mixing of heat. Some of the particles of the soul are then described, negatively, as being smaller than those particles of the soul which are like wind with a

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[1] Life, sec. 31: "τὰς φανταστικὰς ἐπιβολὰς τῆς διανοίας."

[2] H, sec. 56-59.

[3] H, secs. 39-42.

sort of mixing of heat. And, undoubtedly, Epicurus would account for the meanings of words like "good" and "bad" by means of the third measure of truth, feelings, or concepts derived from the feelings (stored in memory) of former experiences of pleasurable and painful sensations of the body and the soul.

Epicurus suggests that if one looks for the first concept associated with a word and if one preserves reference to sensations and to direct apprehensions of the mind (which are derived from sensation) and to feelings, then one will have what is needed to examine questions concerning reality. Thus, all knowledge is derived, ultimately, from sensation. All concepts are derived from sensation; even general concepts are particular sensations.

An atomistic account of noting sensations, storing sensations in memory, and forming concepts would explain these acts of the soul only in terms of the motions and collisions of bodies. If the mind is to attend to a sensation--as it must, even if only to grasp it in its individuality, grasp it with its associated word, and store it in memory--, and if the activities of the mind must be accounted for materially, then it is necessary to suppose that the emanations are carried to the mind from the senses. For the mind, seemingly, remains in the breast and does not travel to the receiving organs to grasp the emanations there. Thus, the emanation must be carried along to the rational part of the soul, where it can be grasped and stored in memory. The irrational part of the soul performs this function.

Since all acting and suffering occur by physical contact, the irrational part of the soul must carry, bodily, the emanation from

the sense-organ to the mind, or it must pass it along physically (hand-to-hand fashion) from one part to the next until the emanation reaches the mind. The irrational part of the soul cannot be altered into an image or sound, or whatever other perceivable qualities are received by the senses, and somehow in this way pass the message to the rational part of the soul, since then, the veridical nature of perception would be called into question, just as it would be on the view that the transporting of perceived attributes to the sense-organs from external objects is owing to the air's being molded by the perceived attributes rather than owing to the perceived attributes' passing directly from the object to the perceiver. This alternative was rejected by Epicurus in the discussion of the perception of attributes;[1] so also it must be here.[2]

The irrational part of the soul can transport the sensation to the mind because it is dispersed through the body. It may be dispersed in the sense that it moves from place to place in the body. Or it may be dispersed in the sense that it remains dispersed in more or less the same places in the body all the time. If it is dispersed in former way then one might say that as it moves from place to place in

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[1]In H, secs. 49 and 53, Epicurus says that the colors and shapes could not be impressed upon the perceiver if the air were molded by them, and that the sound heard results when the sound itself actually goes from the sounding object to the ears.

[2]Indeed, Epicurus most successfully guarantees the veridical nature of sense-perception since, on his account, the emanation received is the attribute of the body and, as I understand the function of the irrational part of the soul, the emanation grasped by the mind is the attribute of the body. It travels all the way to the mind, passing first through the senses and thence to the mind through the agency of the irrational part of the soul.

the body. If it is dispersed in the latter way then one might say that it transmits the perceived attribute by passing it, hand-to-hand fashion, from the sense-organ back to the soul. This latter form of being dispersed would seem the most reasonable alternative since, if this were the case, then the soul might best recognize where the sensation originated and, also, since the functions of the irrational part of the soul would be most simply and efficiently arranged. Further, it would seem that the irrational part of the soul would have to be dispersed throughout the body rather than traveling around within the body, since there is sensation in many places at the same time in the body. If the irrational part of the soul were generally in the same places in the body, then communication from the soul to the various parts of the body could be carried on most efficiently. Thus, it would seem that the irrational part of the soul is able to grasp and pass from one part to the next the emanations received by the sense-organs and, ultimately, to pass such emanations to the mind. Similarly, if the mind wills a certain act, that irrational part of the soul, perhaps in this case by being pushed or moved by the rational part of the soul, can also move the part of the body at some other appropriate extremity of the irrational part of the soul.

Epicurus uses the term ἐπιβολή to name the act of attention. This term means, in its non-metaphorical sense, a throwing or laying upon, and is used to describe what grappling irons do. For Epicurus' materialist account of the act of the soul in attending to an image or a concept, this is a very apt word, since the soul must literally grasp or touch or thrust itself upon and grab an image or a concept if

it is to receive it physically. Again, remember that Epicurus argues that the soul cannot be incorporeal since it acts and suffers, and only corporeal things can act and suffer; they do so by physical contact and by motion. Thus the mind grasps an image and then, perhaps, stores it in memory, again physically, in the way that one stores in the attic the things which one has collected throughout the years. And the mind, in making a comparison, noting a similarity or an analogy, would grasp, touch, or hold in some way the images or concepts which it is comparing or noting. In this way we can account for the mind's attending to combinations, similarities, or analogies in a material way. Epicurus uses the term φθόγγος for what is translated as "word" or "term"; but the term means literally "sound," a physical entity which can be grasped or held and thus associated with and stored physically in memory together with the image or concept with which it is associated by convention. Thus when the mind combines some images, it lays itself upon or grasps[1] those images together; when the mind learns the meaning of a word, it grasps together the similar images (or some of them) that have come in with the word (or sound),[2] and it associates them and stores them together in memory.

Concepts are physical entities, aggregates of atoms, just as the films, sound particles, odor particles, heat particles which travel to the body are aggregates of atoms. Indeed, the concepts are either one of these emanations that has been stored in memory or a

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[1]For ἐπιβολή see H, secs. 38, 50, 51, 62, and 70.

[2]For φθόγγος see H, secs. 37 and 38.

combination of the emanations that have been stored in memory.

An abstract concept, such as the concept of "two," must be physically graspable, as must a general concept, such as that of "animality." These, too, must be aggregates of atoms which can be derived from sense-perceivable attributes by means of combining, noting similarities, or the other ways in which the mind can deal with the qualities that come to it by way of the senses.

From what Epicurus says, it follows that he holds that the meaning of the term "two"--that is, the concept in the mind associated with the sound "two"--is an image of a set of two things (two bricks, two horses, two pieces of clay, or some such thing as that). Again, one might grasp several images, similar with respect to twoness, when one conceives of two. One might grasp from memory an image of two trees and two dogs, or an image of some other set of two things. So, also, a general term (or sound) would find its meaning or concept in some representative image or set of images associated with that sound. The concept of "cow" would be an image of a cow or several images, each of a different cow. Concepts that are associated with terms that name imperceptibles would likewise be particular sense-qualities associated with the sounds. This is borne out by Epicurus' explanations of, and arguments concerning, imperceptible things. He appeals to sense-experience to explain the atoms, the void, the minimal parts of atoms, the infinity of atoms and the void, the motions of the atoms, and whatever other properties belong to them. Concepts are formed, then, by the physical grasping, on the part of the mind, of images, or other emanations, stored in memory and grouped together in accordance with their

way of appearing in experience, or their similarities, or their analogies, or in accordance with some new way of being combined when the mind combines them.

The mind makes a perceptual judgment when it grasps and compares an emanation, together with its associated word, with a concept already formed owing to experience; then the mind might grasp also that the emanation comes from a certain sort of aggregate of atoms, and one might say, on the basis of these activities, "That is a cow." The mind makes a conceptual judgment when it either combines two or more concepts, and notes what they have in common and how, or when it notes that a part of a compound concept is like another concept. In the first case it might note, for example, that all of these concepts (the concept of horse, the concept of cow, and the concept of goat) are similar in being concepts of mammals. In the second case one might note that "Two is one-half of four," or that "Corporeal entities include atoms."

All judgments which are made by a direct apprehension are true. The mind directly grasps all that it is concerned with in judgment. Opinions, however, may be false; for they concern what is waiting to be confirmed.[1] For example, the opinion that the other side of the apple is also red must be confirmed by turning the apple around and actually grasping the emanation of the color of the other side. If the apple is yellow on the other side, the opinion that it is red, is false.

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[1]H, secs. 50-51; Life, secs. 31-32.

The soul is a body whose properties are dispositions towards certain kinds of motions and ways of being physically affected. In Chapter IV, it was suggested that a property of an aggregate of atoms is one of the characteristics of that aggregate, generally conceived, such that it has a certain set of accidents.[1] The forming of general concepts has been considered above. To think of something in general one must recognize an example or some examples of sense attributes or of collections of sense attributes that are associated with a certain word. To conceive generally of the properties of the soul, since one does not receive perceivable accidents of that aggregate of atoms, one must appeal to experience in some other way, for example, one must appeal to the kinds of acts that the soul seems to be capable of, the kinds of acts the soul performs.

From the general comments which Epicurus has made about the soul and from out own sensations, feelings, and what has been said about atomism, one may infer what sorts of acts Epicurus thinks the soul can perform. The general comments which Epicurus made, he probably regarded as necessarily deduced from other general truths of his atomism that were, in turn, necessarily deduced from observations about bodies.

The properties of the soul are its capacities to form concepts, remember, make judgments, cause sensation, imagine, dream, will, opine, feel passion. The kinds and arrangements of its atoms are such that the soul can move and be moved or affected in ways called conceiv-

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[1]See supra, pp. 84-89.

ing, sensing, willing, and feeling. The soul can so touch the body that the eye senses an image or the knee a pain or the ear a sound; or the soul can so touch the body that the body moves--it walks or stops walking by being touched in certain ways by the soul. In touching the body in these ways the soul is the cause of sensation and volitional acts. The irrational part of the soul can carry an emanation from the place in the body where it is received to the mind, and at the same time carry the accompanying sound, or word, also to the mind; the mind can then place that emanation and its accompanying word together in a place in itself, its memory. Thus the soul, too, can sense; and unlike the sense-organs of the body,[1] the soul in its rational part can remember. And the soul can receive emanations directly, not through the sense-organs: it can dream or imagine.

The soul, in the rational part, does more than passively receive sensations. The mind can pull out of memory emanations stored there with their accompanying sounds, and touch them, or arrange them, in such a way as to from new combinations of images, sounds, or other perceivable attributes. Thus, the soul forms concepts. The soul can place those concepts in memory and pull them out again, in order to place them side-by-side with each other or with new emanations, and, thus, make judgments of a conceptual or perceptual sort. Opining is like judging except that some things involved in the opinion are not directly apprehended, whereas in judgment, all thing are.

In the rational part, the soul also treats, in a way differ-

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[1]Life, secs. 31-32.

ent from conceiving or judging or sensing, concepts or emanations received: it reacts to things in such a way that it might then touch the body and cause tears to come to the eyes or laughter to the lips or a tightness in the throat. This happens when the soul is said to feel passions.

These characteristic ways in which the soul performs are the properties of the soul; one can think, in an Epicurean way, of these ways of performing only by bringing to mind some particular images of parts moving, or perhaps, remembrances of passions felt or judgments made. The accidents of the soul are the particular instances of functions of the sort described above.

An Epicurean account of an act of the soul, then, would be somewhat like the one that follows: A physical emanation strikes a receptive sense-organ. That emanation is physically passed on to the rational part of the soul. The rational part physically grasps the emanation and physically stores it in memory. The rational part then retrieves physically from memory that emanation and physically grasps it and, at the same time, grasps a new emanation transmitted from a sense-organ.[1]

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[1]A problem arises concerning the size of the visual images. When one stands close to an object, one either sees it as the main object in the field of vision, the largest object, or one sees only a part of it; how one sees it depends upon its size. When one stands away from the very same object, either it is a small object in a field of other objects or one sees more of it than one did when one was close to it; again, how one sees it depends upon its size.

This simple experiment would seem to indicate that the size of the image decreases as it moves from the body of which it is the image to the perceiver. But if it does, then the possibility of distortion of the image arise. This may be why Epicurus says that some judgments about perceivable objects must be confirmed, that we must

Thus far the physical account of the soul's activities is intelligible. However, the distinctive act of the rational part of the soul is to have chosen this emanation rather than that from memory, and to have noted the similarity or difference between them. These acts--choosing and noting--stand behind or explain the physical retrieving from memory and the physical grasping of the stored emanation and the new one at the same time. Otherwise the retrieving and grasping together would be either entirely determined by mechanistic laws of matter or entirely undetermined, owing to chance.

But the creativity and reasonableness which we note in our experiences of the activities of our souls and in our experiences of the souls of others (in, for example, the employment of language and the making of perceptual judgments) indicates to us that behind these activities is an awareness of what emanations were present, what were in memory, and what similarities or differences obtained between (or among) these emanations. Further, the choosing of one and the comparing of that with another seem to be owing to will, which is responsible for choices and decisions.

In one's own internal experience one discovers a unity behind the acts of awareness. It is a unity of a history of experiences and it is a unity which bestows upon its acts their intentional[1]

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have "clear visions" of things to make true judgments (H, secs. 50-52). For if the images did not decrease in size as they travel to the perceiver, many problems would arise. Two such problems are the reception of the images by the eyes and by the mind and our comprehension of the relative sizes of things.

[1]I use the word "intentional" to name a relation between consciousness and that of which it is conscious (a mental relation between

character. Without awareness, no amount of the soul's physically falling upon and grasping aggregates of atoms could bring about the forming of a concept or the making of a judgment or an opinion. And without awareness, no deliberation or inferring could take place irrespective of how many aggregates of atoms were held together or touched in succession. Without awareness and will, no decisions could be made or plans devised and acted upon irrespective of how many aggregates of atoms were held together, touched in succession, or pushed. Although awareness always stands behind its acts and, thus, cannot be brought before itself for inspection, by its effects one can know the sort of thing it is. Although it seems difficult to understand how an aggregate of atoms can will or be aware, I shall attempt, in what follows, to give an Epicurean account of these two peculiar attributes of the soul.

I suggest that Epicurus would account for the will (or for free will in choosing and avoiding) in terms of the swerve of the atom. I suggest this because Lucretius does account for free will in terms of the swerve of the atom,[1] because Epicurus does hold that men are free to make choices,[2] and because Epicurus' Canon, Physics, and Ethics are

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the rational part of the soul and that of which it is aware) or a non-physical activity of "attending to" something. Even if one describes the relation or act physically or spatially, one has not captured the nature of the intentional act, but must add to this material account the distinctive intentional aspect.

[1]See infra, p. 166-67.

[2]Epicurus says that an important consideration in ethics is the standard of choice and avoidance (M, secs. 128-29 and 132) as though we do have a choice. Further he suggests that some things occur by chance, some by necessity, and some are in our control (M,

parts of a connected system in which the first two parts are meant to support the Ethics.[1] In addition, Epicurus presents an argument ad absurdum against necessity which indicates that he does not hold that all things occur by necessity. "The man who says that all things come to pass by necessity cannot criticize one who denies that all things occur by necessity: for he admits that this too happens of necessity."[2]

Since we have no extant writings of Epicurus on will, let us use Lucretius' attempt to account for freedom of the will as a starting point for discussion. Lucretius accounts for freedom of the sill by means of the swerve of the atom.[3] He says:

> Once again, if every motion is always linked on, and the new arises from the old motion in order determined, nor by swerving do the first-beginnings make a certain start of movement to break through the decrees of fate, so that cause may not follow cause from infinite time; whence comes this free will for living things all over the earth, whence, I ask, is it wrested from fate, this will whereby we move forward, where pleasure leads each one of us, and swerve likewise in our motions neither at determined times nor in a determined direction of place, but just where our mind has carried us? For without doubt it is his own will which gives to each one a start for this movement, and from the will the motions pass flooding through the limbs. Do you not see too how, when the barriers are flung open, yet for an instant of time the eager might of the horses cannot burst out so suddenly as their mind itself desires? For the

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sec. 133). See, also, supra, Chapter I, p. 7, and infra, Chapter VIII, pp. 203-204 and note 2 on p. 204.

[1]He says that it is the study of philosophy which aids us in the pursuit of happiness (M, sec. 122; H, sec. 82). See, also, supra, Chapter I, pp. 7 and 12-13, and infra, Chapter VIII, pp. 201-207.

[2]Bailey's translation of Vatican Fragment XL, Bailey, p. 113.

[3]Epicurus adopted a modified form of Democritus' Atomism. Democritus held that "Everything happens of necessity" (D. L. ix, 45). Epicurus denied this (e.g., in M, secs. 133-34), and it is generally believed that his modification of Democritean Atomism that brought chance into an atomistic universe is the swerve of the atom.

> whole store of matter throughout the whole body must be roused to movement, that then aroused through every limb it may strain and follow the eager longing of the mind . . . . Wherefore in the seeds too you must needs allow likewise that there is another cause of motion besides blows and weights, whence comes this power born in us, since we see that nothing can come to pass from nothing. For weight prevents all things coming to pass by blows, as by some force without. But that the very mind feels not some necessity within in doing all things, and is not constrained like a conquered thing to bear and suffer, this is brought about by the tiny swerve of the first-beginnings in no determined direction of place and at no determined time.[1]

While successfully avoiding the odious conclusion that nature is completely determined, since a chance occurrence is possible whenever an atom swerves; yet, the same account applied to the soul does not suffice to show that the soul determines its own acts. Rather, it only indicated that the soul is subject to chance occurrences also. But an act of will seems not to be a chance occurrence or a mechanically determined one, but, rather, a deliberately chosen motion or course of action. Let us examine experience in order to determine what the will is. Then it may be possible to determine whether the Epicurean account of will is adequate to explain experience.

When one acts according to one's will, rather than involuntarily, one is said to be, in some sense, aware of and responsible for the action undertaken. Involuntary acts are not acts of which one is aware or for which one is responsible.

Some involuntary acts are automatic responses of the body to stimuli--responses over which one has no control and of which one is unaware. One is always unaware of these acts, though one may be aware sometimes or always of a result or of a concomitant of such an

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[1]DRN II, 251-293.

act. The enlarging and contracting of the pupil of the eye in response to light is an automatic involuntary act of which one is unaware,[1] though one will be aware of the fact of the failure of this act occurring if, say, the pupil does not contract in the light and, as a consequence, the light is too bright for one. The opening of the pupil of one's eye in the dark is an action of the body that is not performed according to one's will. One cannot, by choosing to do so, either cause the pupil to enlarge or cause it to contract. Numerous other activities of the organism are acts like this, acts which the body performs but of which one is not aware and over which one does not have control--for example, the pulsating of one's blood.

Some involuntary acts are acts which one performs automatically but which one attended to and learned at some time; they are habitual. Many actions involved in a daily routine are of this sort. Habitual acts are such that one may become aware of them and cause them to stop or to start, though for the most part one does not.

A random involuntary act may be distinguished from the other two--the automatic or habitual responses of the organism. A random involuntary act is not a regularly occurring or necessarily expected act. Some of these acts one could choose to do or not to do but one is not choosing to do at the time when they are random involuntary acts. Some random involuntary acts are acts of which one could be aware; but one is not aware of them when they are random involuntary

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[1]That is to say, one does not feel directly the enlarging or contracting of the pupil. One can be aware, as an observer, of these movements if he looks in a mirror and varies the light reaching the eye.

acts. For example, sometimes one becomes aware of the fact that one is doing, and, one suspects, has been doing for some time, an act of which one was not previously aware. At this point one can choose to continue or to stop doing it; at this point one has become aware of it and can take responsibility with respect to it. Such an act as drumming one's fingers on the table may be a random involuntary act.

Acts of the will, however, are chosen, and one is necessarily aware of them. An act according to will is an act chosen by the agent.[1] It may be chosen on the basis of a reasoned deliberation or on the basis of an emotion. It is an act arising by choice and direction of the agent performing it as an act of that agent.

Involuntary acts are not according to will and, although they are acts of the same agent that performs voluntary acts, they are not acts chosen by or directed by that agent. The voluntary act is conceived as being performed by, according to the direction of, and, often, for the sake of the agent. This analysis points to the will as an autonomous source of action. Voluntary action, according to this analysis, would seem to arise from the same source which thinks and feels; for such acts arise on the basis of thoughts or feelings of the agent. The agent is understood to be the same entity which receives many sensations, which thinks many thoughts, and which feels many

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[1]Some acts of the will that we commit are acts about which we say we had "no choice." But this is only to say that we would not have chosen the act if there had been some different alternatives to choose from than there were. The escaping robber does not choose to go along peacefully with the arresting officer absolutely, but he does choose that alternative over the alternative of being shot at as he attempts to resist arrest--or, as we would say, "He had no choice."

feelings. Most of the acts willed are conceived to pertain to the sensations received, thoughts conceived, and/or feelings felt by the agent insofar as they derive from some, and are planned, often, to bring about other, sensations, thoughts, and feelings. In other words, the agent who wills is regarded as a single agent (and sometimes a patient) of many acts of many sorts, and is, indeed, a unity behind these many experiences.

The notion of will for Epicurus is, I suggest, very much the same as the view expressed by Lucretius and quoted above.[1] For he accounts for all things materially, there being no other ultimate causes than the atoms in the void, and thus there being no other cause for will than a material one. Further, one of the ways in which Epicurus' atomic theory differs from the theory of Democritus is that according to Epicurus the atoms swerve, whereas according to Democritus they do not.[2] This change in the atomic theory, it has been suggested,[3] was made in order to bring into the fundamental account of reality chance and human will--these two being essential to Epicurus' ethics.[4] The swerve of the atom is not mechanically determined; it is completely undetermined. Thus, because the atom swerves, undetermined occurrences take place in reality--chance events and voluntary human acts.

But, though it is possible that the swerve of the atom

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[1]See supra, pp. 166-67.

[2]See supra, p. 166, note 3.

[3]Atomists, pp. 316-22.

[4]See M, sec. 133.

account for chance physical events, it seems to me that the swerve of the atom is inadequate to account for free will. For, whereas the sense in which chance physical events are undetermined is that they are not predictably caused by the preceding motions and collisions of atoms, the sense in which voluntary human acts are undetermined is not that they are not predictably caused by collisions and motions of bodies--but something quite different.

A chance physical event may be understood to be undetermined in two senses: (1) It could have been otherwise with respect to the previous conditions of compound bodies, it is not a necessary effect of previous occurrences and thus is not predictable. (2) It is caused by a swerving atom (or by swerving atoms) but, because the swerve is unpredictable so is its result in the perceivable world.

(1) Voluntary human acts are not unpredictable with respect to preceding physical events in the perceivable world; that is to say, they are neither predictable nor unpredictable with respect to preceding physical events in the world. Rather, voluntary human acts are caused by the agent himself. (2) Involuntary human acts may be caused by the motions and collisions of the atoms, in a predictable or in an unpredictable way--automatic and habitual acts predictably; random acts, unpredictably.

However, voluntary human acts do not seem to be caused by motions and collisions of atoms, in a predictable or in an unpredictable way; for they are neither automatic or habitual involuntary acts nor random involuntary acts. Voluntary acts seem to be distinguished from these two kinds of involuntary acts in precisely the

sense that they are not the effects of the motions of bodies; they are caused by the agent.

Of course, Epicurus' response to this account might very well be to say that the attributes of the human soul are attributes of a compound body, not of the individual atoms which compose it; and thus, he is not calling the swerve of the atom the direct cause of a voluntary human act. Rather, he might suggest, the soul as an aggregate of atoms has distinctive properties and accidents which belong to it as an aggregate and not to the atoms, just as the perceivable bodies have perceivable qualities which belong to them as aggregates and not to atoms. Further, he might suggest that the peculiar attributes which he would call the accidents of the will, particular acts of willing, belong to a soul in virtue of the fact that the atoms of the soul can swerve. A particular volitional act is owing to the fact that, in that compound, one or more atoms happen to swerve. But the swerve is only indirectly responsible for a volitional act. That act is directly caused by the compound of atoms as a whole. To evaluate this response, let us consider chance occurrences among perceivable entities.

It seems that Epicurus would say that chance[1] among perceivable objects means that such objects exhibit characteristics (qualities or motions) which are not determined by their preceding characteristics, or that, in their relationships with each other, there occurs a rela-

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[1]Epicurus says that chance occurs, that it is a real feature of the world (see M, sec. 133). Thus chance must be owing to a break in the mechanical causal chain of atomic collisions. The swerve permits this to happen.

tionship not determined by preceding relationships and characteristics among things in the perceivable world. And the swerve of the atom is not determined by the motions or collisions of other atoms or by its own previous motions. The voluntary human act is not simply not determined by physical precedents of the compound of atoms as a whole, but, more importantly, is owing to the choice of the agent rather than to the choice of someone else or rather than to physical forces.

The swerve of the atom is absolutely uncaused, however a chance occurrence among compounds of atoms is caused by the swerve of the atom. And if the swerve of the atom is responsible for voluntary human acts, then voluntary human acts are caused and are not voluntary at all but owing to physical force. If human voluntary acts are caused in any way whatsoever by the motions and collisions of atoms (even if by swerving atoms) then they are indistinguishable from involuntary acts.

My experience, which is, according to Epicurus, a legitimate source of knowledge, leads me to believe in the existence of such a thing as my will; that is to say, my experience leads me to suppose that I am an autonomous source of my own acts. According to Epicurus' account (if he holds that free will is owing to the swerve), acts of the will are illusory; they are not actually caused by the agent but by the unaccountable, irrational, and passionless swerve of the atom.[1]

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[1]David Furley [in Two Studies in the Greek Atomists (Princeton, N. J.: Princeton University Press, 1967), pp. 161-237], considers the connection between Aristotle's theory of voluntary action and Epicurus' theory of voluntary action. He determines the latter by analyzing Lucretius' account in DRN. Furley's objective is to refute the view of other Epicurean scholars that the swerve of the atom enters

If this is the case, Epicurus' ethics is based on an illusion.[1]

Will and awareness are closely associated in the soul. As an account of awareness is developed below this connection will be made clear. Let us consider first what in experience is meant by awareness, beginning from examples of a more general notion (which I shall not attempt to define but only describe in part as I distinguish it from

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into the chain of events in the soul at one point or another when one commits a voluntary act. Rather, thinks Furley, the sense in which voluntary acts are voluntary for Epicurus, as for Aristotle, is simply in that the source of the act is the agent. Such acts are neither forced upon one by external causes nor by internal mechanical necessity.

Furley thinks that, for Epicurus (as for Aristotle), acts are voluntary not in the sense that a particular act is freely chosen but because the agent originally chose the disposition he has to act in one way or another. The importance of the swerve (if it has any importance at all), thinks Furley, is that it provides a break in the chain of mechanical causes so that the acts of the agent (in choosing his dispositions) are not determined by something occurring external to him (i.e., before the birth of the agent).

My objective here is not to account for Epicurus' position in terms of other views but, rather, to develop out of his own first principles whatever can be so developed in order to explain, among other things, the soul and its acts.

Although Furley has managed to attribute to Epicurus a fully developed Aristotelian position on voluntary action, he has no more explained the connection between the swerve and voluntary action than have those whom he critizes. For even if the swerving atom does not enter immediately into voluntary action but only a few times or once in the history of the agent (when he "chooses" his disposition to act), how that swerving atom is relevant to choice is not explained.

[1]Since my concern in this dissertation is to view Epicurus' system as a whole, I have not considered whether there is some sense in which his ethics could stand alone, or is worthwhile though unsupported by his physics. It would be presumptuous of me to deal with such a question in a footnote. A comment, however, is in order.

Dr. Feaver asks whether the support of the physics is necessary to the ethics. In response I should point out that the Socrates of Plato's early dialogues, the Socrates who eschews the study of physics (in the Phaedo), not only does not consider such support necessary but, indeed, regards the study of physics to be irrelevant to ethics. I tend to agree. However, I do not think that Epicurus agrees. Thus, I have offered my criticisms.

awareness).

The more general notion is that of being alive. A dead body is definitely not aware: when the soul is no longer embraced by the body, its parts disperse and it is no longer; and then, of course it is no longer aware.[1] A dead body is no longer aware, although it may be moved or struck or burned or buried, and although it is altered by being so acted upon in this way, and although it may act upon other things while in this condition (as when it bends the blades of grass upon which it lies). Thus, the simple fact of being altered by being acted upon or of altering other things by physical contact does not constitute awareness. Thus, rocks are not aware, nor are billiard balls, nor are the infinitely many atoms which move through the infinite void, and swerve and collide and recoil. Simply acting and reacting does not constitute awareness.

One clear difference between the dead body and the ensouled body is that whereas the dead body has no life, the ensouled body is alive. Does life then constitute awareness? If it does, then the human organism as a whole is aware owing to the presence of the soul. However, plants are said to be alive; indeed there is present in a live plant a quality of turgidness similar to the quality in the live human being that each lacks when it is dead. Further, the plant seeks water with its roots and sun with its leaves. Yet, on the basis of experience, one would infer that these processes are automatic responses of the organism to certain stimuli and that they are like the

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[1]According to Epicurus, H, secs. 63-64.

human being's automatic response to light (when the pupil of the eye contracts), rather than acts of awareness. Awareness seems to be more than simply being alive and acting and reacting: one is not aware of the automatic involuntary acts of the organism. Such automatic responses of a human being find their source, perhaps, in the life-giving part of the soul.

Experience indicates that it would be legitimate to call acts of the mind, acts of awareness. When the mind judges that there is a cow in that field, or when it fears the dog in the path, or when it judges that the fire caused the pain, or when it decides after deliberation to take the left rather than the right turning at the fork in the road, the mind is aware. In each of the above cases the soul's being aware involves attention to another, or regarding another, in some particular way--in a judging, fearing, willing way--, in a way which is attributable to the mind as Epicurus understands the mind (that is to say, the thing responsible for rational acts and passions).

Other acts of awareness, unlike the ones mentioned above, are not directly concerned with external objects but with general concepts (as when one thinks of the number two or of animality), or with relations between concepts or sentences (as when one makes a judgment or follows a deduction), or with particulars which do not come through sense-organs (as when one dreams or imagines). Acts of awareness, for the rational part of the soul, are acts in which the mind is related to something by one of the characteristic acts of the mind. In order to distinguish these acts from other acts, I shall call them mental, rather than physical acts; in order to distinguish these rela-

tions from other relations, I shall call them mental, rather than physical or spatial relations.

Acts of awareness occur when something is judged, feared, chosen, conceived, deduced, imagined, dreamed, opined by the mind. Other acts not yet considered may be acts of awareness, but at least acts of the rational part of the soul are acts of awareness. Thus, even when the rational part of the soul judges concerning a physical object that it has acted in a physical way, it is not the physical act which constitutes the awareness relation of the object to that mind, but the mental act. For example, if the rational part of the soul judges that a building is ten feet away from one, it is not the distance of ten feet between two physical objects but the judging that constitutes the relation that is awareness; it is awareness of the physical state of there being a distance of ten feet between two bodies. And if the mind judges that a stone hit one's knee and caused a pain, it is not the impact of the stone or the pain that constitutes the relation of awareness between the mind and the stone or the pain, but rather the judgment concerning the physical contact of the stone with the knee and the consequent pain.

When one is asleep the rational part of the soul does not have such relations of awareness to external objects because it cannot be made aware of them. It cannot be made aware of them, according to Epicurus, because the irrational part of the soul is scattered or held fast and cannot make the physical contact necessary to transmit the sensations from the sense-organs to the mind.

Having established clear cases of awareness and non-aware-

ness, we may ask whether the receptiveness of the sense-organs to emanations is a form of awareness. An act of awareness certainly occurs when the sensation received by the sense-organ is transmitted to the mind and a judgment is made about the object whose emanations have been received; and an act of awareness certainly occurs when the pain is transmitted to the rational part of the soul and is judged to have been caused in a certain way. It also seems certain that the simple pulsation or elasticity of life is not a form of awareness. However, sensation is generally regarded as a kind of awareness.

Epicurus says that the body has a share in sensation through its association with the soul,[1] and he also says that there are acts of apprehension on the part of the sense-organs.[2] Thus, it would seem that Epicurus holds that the body, owing to its association with the soul (through its physical contact with the irrational part of the soul), is in some sense aware. But the sort of awareness that the sense-organs have in the apprehension of emanations would have to be non-judgmental in nature; for once the judgment is made that the color is red or that the cause of the pain is fire, the mind has entered into the perceiving in its own distinctive way. However, it would seem that even when the mind, for its own purposes, becomes aware of the emanation, it is also aware of the place of entry of the emanation--for example, this color from the eyes, that sound from the ears, this pain from the knee.

I suggest that this awareness of the place of entry of the

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[1] H, secs. 63-65.

[2] H, sec. 50.

emanation is, for Epicurus, owing to the tie between the mind and the sense-organ through the irrational part of the soul. Further, Epicurus would undoubtedly hold that one may be aware in sensation though one makes no judgment; and that this is the sense in which the body is aware or the sense-organs apprehend. There is a simple feeling of pain, or an image in the eyes, or a sound in the ears. If, of course, these sensations are to be remembered, the mind must apprehend and store them in memory.[1] And, again, since the entity that is aware of the pain (though the pain is non-judgmentally felt in the knee) or aware of the image (though the image is non-judgmentally seen in the eye) or aware of the sound (though the sound is non-judgmentally heard in the ears) is the same entity that judged of the previous sensation or might judge of these or store them in memory, it would seem that the source of the body's awareness is the single rational part of the soul. The body has this awareness owing to the contact made, between the rational part of the soul and the body, by the irrational part of the soul. So one is aware (non-judgmentally) of the pain felt in the knee owing, ultimately, to the mind in the body that has that knee. Awareness, then, seems to be at the basis of the acts of the rational part of the soul--thinking, judging, willing, perceiving (judgmentally), remembering--and at the basis of the simple recognition of the entry of sensations to the body.

For Epicurus, since awareness might be regarded as the distinctive property of the soul, the account of that property might be

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[1]See Life, secs. 31-32.

analogous to the account of properties of other aggregates of atoms. In Chapter V, it was determined that the general disposition of certain sorts of atoms in an aggregate made possible the particular accidental qualities of that aggregate of atoms. Thus, some aggregate of atoms has the color blue because the atoms of that aggregate are of such a kind and are arranged in such a way that the color blue comes into being. And although the color may change to red or green, nonetheless the aggregate of atoms is such that it is visible; that is to say, it will have one color or another. So also, the soul, Epicurus says, has sensation owing to the fact that these atoms which compose it are covered or embraced by the body. Thus, a certain arrangement of the atoms of the soul, atoms which are very round and very smooth, accounts for sensation (or, more generally, awareness) coming into being; namely, this particular act of awareness or that may happen to this soul.

The criticism of Chapter V seems appropriate here. Just as it does not seem possible to account for the reality of color in terms of colorless atoms simply by their being arranged in some way, so also it does not seem possible to account for sentience, thinking or awareness in general in terms of an arrangement of atoms that have no other attributes than those of shape, weight, and size. Neither can one account for sentience in terms of the mobility of the parts of the soul; for there is more in sentience than simply matter in motion.

Whereas, in Chapter V, I said that it was possible to account for the perceivable attributes if the atoms themselves have perceivable attributes, it does not seem possible to account for the attributes of the soul in an analogous way (that is, if the atoms are

sentient). As will be seen below, to attribute awareness to each of the atoms of the soul does not permit one to account for the awareness of the soul itself.

The argument against the atoms' possessing perceivable attributes is that perceivable attributes change, whereas the atoms must be unchanging. However, in Chapter V, an account was suggested in which each atom could always retain its own particular sense-attributes if changes in the compound of atoms are brought about by changes in the positions of the atoms, and by the addition or departure of atoms--perception occurring only when a large enough number of atoms are organized so that the collected qualities of those atoms are perceivable together. But the argument against each of the soul atoms being sentient is that, as Lucretius says:

> If, in order that all living things may be able to feel, we must after all assign sensation to their first-beginnings, what of those whereof the race of men has its peculiar encrement? You must think that they are shaken with quivering mirth and laugh aloud and sprinkle face and cheek with the dew of their tears. And they have the wit to say much about the mingling of things, and they go on to ask what are their first-beginnings.[1]

And he also says that the parts cannot be sentient because "all sensation in the limbs depends on us, nor severed from us can the hand nor any part at all keep sensation by itself."[2] Sensation is caused by the soul as an aggregate. If each part of the soul is sentient, then " . . . still by their meeting and union they [would] make nothing besides a crowd and mob of living things, even as, you may be sure, men, herds of cattle and wild beasts could not beget anything [that is,

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[1]DRN II, 973-79.

[2]DRN II, 910-14.

a single soul] by coming together with one another."[1]

Lucretius tells us that each part of the human soul cannot be sentient, since then each one would be itself a small sentient being; and the combination of a number of sentient beings does not make one sentient being but a mob of sentient beings. Lucretius recognizes that a sentient being seems to have, or to be, a fundamental unity, not a unity of parts, whether like or unlike itself, but a unity neither dissoluble nor even with parts distinguishable by thought. Although a soul has various functions and activities, and though it changes as it gains knowledge and modifies its attitudes, still it is regarded as always being the very same thing which underlies the changes in opinion, the differing experiences, and the acquisition of new knowledge.

Compound bodies that are not souls are said to have a unity and identity as material bodies owing to the arrangement of their atoms. But it seems impossible to explain how the simple unity of awareness which underlies all of the experiences and attitudes of a man can be owing only to an arrangement of hard, solid, moving bodies.

Our experience, Epicurus' own measure of truth, permits us to regard other aggregates of atoms as organizations of bits of matter. By analogy to one's experience of perceivable objects, one can understand the account of their imperceptible components. Just as a box is a box rather than pieces of wood, because the pieces of wood are stuck

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[1]DRN II, 920-23.

together, so also, the piece of wood itself can be understood to be a single entity which is, nonetheless, an aggregate of bits of matter (of atoms) organized to stay together and to present themselves together as one. Further, just as one finds it quite reasonable to suppose that a part of a wooden box can be replaced with another piece of wood, while the box remains fundamentally the same thing owing to its organization, so also it seems reasonable that some atoms can replace others in a compound of atoms, while it remains fundamentally the same thing owing to its organization. But reflection upon oneself as a soul (understood as the source of awareness) leads one to a rather different sense of being from that of the material sort of being described above.

One's sense of being in this case is of a being that is somehow the source of unity of the various acts and experiences undergone, not itself a unity owing to an arrangement of parts (particularly of material parts). On the evidence of experience one judges that the soul seems to be a being that holds together the strands of experience rather than to be a being that is bits of matter owing its unity to the organization of those bits of matter.

Epicurus might remark that the explanation of awareness in a materialist or any other context seems always to be imperfect, for one no more experiences directly the soul than one does the imperceptible. The reason for this seems to be that the mind is always behind, as it were, an experience and, thus, can never be the object of the experience. But it is just considerations of this sort which lead to dissatisfaction with Epicurus' account of the soul, even if it does not

provide one with an alternative account. For what one does discover about the soul is that it seems to be a simple unity behind experience, not a unified whole of parts of any sort whatsoever.

This is the sort of unity, this distinctive mark of the soul, which Epicurus must explain. For this unity explains the fact that all of one person's experiences (acts of awareness) are regarded as belonging to him. At the same time it explains the fact that they are these very peculiar sorts of things. For this unity bestows their distinctive mark upon the attributes of the soul and it is the source of these acts.

Epicurus, being a materialist, would not have held, of course, that certain atoms have sentience (awareness) and that it is out of these that the soul is composed. Rather, it is clear that he holds that awareness arises as a property of a certain sort of compound of atoms. The reason for my noting Lucretius' rejection of the suggestion that the atoms of the soul are sentient, is to direct attention to one attribute of the soul that Lucretius himself recognizes and which makes it impossible that a materialist explanation of the soul be complete, that is to say, to the center of awareness, to the unifier and source of acts of awareness.

The center of awareness is the mind which thinks and feels passions. On the basis of rational deliberation or passion, acts of the will are determined, for these acts are chosen. Thus, they are the result of what goes on in the rational part. The will resides in the rational part. For sensations to be remembered, they must come to the attention of reason. Thus, memory, also, resides in the rational part.

An act of awareness cannot be absolutely isolated from that which is aware. And that which is aware understands its acts of awareness as belonging to itself. To understand this is to understand that the same thing which is aware in this way now, was aware before in other ways of other things--it regards itself as having a history. This requires that the center of awareness reside where memory and reason reside, since memory holds the historical record of acts of awareness of that soul, and reason is able to make the connections between the contents of memory and the new act of awareness. Thus even a non-judgmental act of awareness resides ultimately in the rational part, where at least the implicit judgment that this non-judgmental act of awareness belongs to this soul with this history, is made.

All that I have outlined as the fundamental, distinctive attribute of the soul must be brought about by a part of an entity which is simply an organization of hard, moving bodies. The rational part of the soul is an aggregate of atoms; and it is the center of awareness.

I have explained the various acts of the soul, as far as possible, in terms of motions and physical impacts. However, these motions and physical impacts do not account for the distinctive acts of the soul. Rather, awareness must be included in the account to distinguish these motions from the insentient motions of other sorts of bodies--atoms or insentient compounds of atoms. For example, apprehension is falling upon or grasping an image, but this falling upon or grasping is not the same as that of a rock falling upon another rock or a burr grasping an animal's fur.

If Epicurus is to explain the existence of awareness he must argue that awareness arises out of the simple combining of the soul atoms. Awareness must arise out of the combining of mindless, passionless, totally unaware, moving atoms. Their being aware would not explain the unity of awareness discovered in experience. Neither does their not being aware explain awareness. For if they are not aware, awareness would have to arise as an attribute of a collection of hard, moving bodies. This does not constitute an explanation of awareness. Awareness is an entirely different sort of thing from matter and the attributes of matter. Every attempt made in this chapter to discover awareness in the motions and collisions, the fallings upon and graspings, has failed. Rather than finding awareness in any of these activities of material objects it was necessary always to add awareness to these activities, if they were to be understood as acts of awareness.

These activities of the soul cannot be explained simply in material terms. They demand some other sort of explanation. Since Epicurus offers only a material explanation, he cannot explain the acts of the soul. I am not implying that it is necessary to suppose that there is mind on the one hand and matter on the other. Indeed, the mind/matter dichotomy produces problems of its own.[1] However, the reduction of one kind of occurrence in our experience to another radically different sort of occurrence is also inadequate. In this particular case, we find in experience two kinds of occurrences--

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[1]The principal one of which is to find any connection between the two, once the separation has been made. Epicurus has no difficulty explaining the reception of physical images by the physical mind or the ability of the mind to move the body in volition.

those which might be explained in terms of material and spatial relations, and those which might be explained in terms of intentional relations. To reduce both to one source (which is rich enough to explain both) may be possible, but to reduce one sort to the other is not possible. If, as in the case of Epicurus, one has only one sort of entity--a material sort--, and thus only one sort of relation--material and spatial--, then relations which are not of that sort cannot be explained.

Although it is possible, as Epicurus claimed, to work out the details of the physical activities of the soul from the few paragraphs in the letter to Herodotus, one finally comes to a point in the explanation where the soul acts in a way for which no physical account can be given, and in a way which makes the physical acts themselves have the special character that they have as acts of the soul. This grasping is not simply grasping but conceiving or perceiving or judging; this motion is not simply motion but volition. At that point one has come to the awareness and to the will of the soul.

CHAPTER VIII

KNOWLEDGE AND ETHICS

In the preceding chapters I have developed Epicurus' accounts of atoms, of perceivable compounds of atoms, and of the soul. There are two aspects of his position that I shall consider in this chapter: (1) some problems associated with his theory of knowledge and (2) some problems associated with his ethics.

There are two sources for determining Epicurus' theory of knowledge. They are his criteria of truth and his account of the nature of the soul. These have been considered previously in Chapters I, VI, and VII. In this chapter I shall demonstrate that there are some inconsistencies in Epicurus' application of his criteria of truth.

The fundamental principles of Epicurus' ethics are presented in his letter to Menoeceus and in his Principal Doctrines. My concern here is not to develop in detail Epicurus' ethical position, but to determine whether his physics serves as an adequate basis for his ethics. In order to determine this, I must first outline his ethical position as he presents it in the letter to Menoeceus and the Principal Doctrines, and then explain how the physics is meant to serve as a basis for the ethics. Then I may examine the relationship between the two. Because Epicurus' theory of knowledge has some bearing upon his

ethics, as shall be demonstrated below, I shall also examine the relationship between the theory of knowledge and the ethics.

Epicurus is an empiricist insofar as he holds that knowledge derives from perception and insofar as he holds that perception is veridical. Epicurus holds that knowledge derives from perception, but he also holds that there are imperceptible entities. He employs certain methods to derive from perception truths about imperceptibles. I shall demonstrate that his use of these methods is inconsistent. Epicurus holds that perception is veridical, yet he sometimes fails to heed the evidence which perception provides. I shall demonstrate that his failure to heed the evidence of perception is a symptom of the incompatibility of Epicurus' atomism with his empiricism. Epicurus' methods for deriving from perception truths about imperceptibles are: (1) the direct use of empirical evidence, (2) the use of "first notions" for general terms, (3) analogy, and (4) causality or condition.[1]

Epicurus' argument for the fundamental principle that nothing can come from nothing depends upon the empirically determined evidence that all things come from seeds.[2] His argument for the principle that everything is bodies and void is also based upon empirical evidence. For he observes that there are bodies and that there must be space for bodies to be in and move in.[3] These are arguments in which one derives

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[1]These have been explained in Chapter I and in Chapter VII, pp. 2-6 and 148-63.

[2]H, sec. 38.

[3]H, secs. 39-40.

from generalizations about the perceivable, propositions about the imperceptible.

Sometimes, when concerned with the imperceptibles, Epicurus does not appeal to the most obvious empirical evidence. For example, when Epicurus considers the motions of the atoms within the perceivable bodies, he does not argue that all the atoms of a compound body are at rest when it is at rest or moving in the same direction and at the same speed as the compound body.[1]

If he had argued from the most obvious perceptual evidence he would have concluded that the atoms move or are at rest as the compound body, which they combine to make, moves or rests. For in perception one sees a single body moving or at rest as a whole, and one might conclude from that evidence that all the parts of that body are at rest or moving as the compound body is at rest or moving. But although the perceivable parts of the body are moving or at rest as the body as a whole is, the atoms that combine to make that body, according to Epicurus, are not. For, once having made some general determinations about bodies and the existence of things, Epicurus comes to the conclusion that motion is fundamental and rest is derivative from motion.

Epicurus holds that motion is fundamental because he holds that the only causes are the atoms in the void. If atoms were not always in motion it would be necessary to suppose that there was an additional cause, the cause of motion. But perceiving only bodies, and perceiving that only bodies act and suffer, Epicurus inferred that

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[1]H, sec. 47b.

bodies (atoms in the void), being the only causes must be in motion at all times.[1] Because all the atoms are always in motion and because they move as quick as thought, the atoms within a compound body are moving in different directions from each other and from that of the compound body.

Another way in which all arguments are grounded in perception is that all first notions are derived from experience. The first notion of any general term is a particular emanation or a collection of particular emanations held in the mind in association with the term of which it is the meaning.[2] The emanation used as the meaning of a term is a representative emanation for all other emanations like it, and is drawn for use from memory, where it is stored; but its original source is perception--before it could be in the mind, in memory, it had to come to the mind from experience.[3]

For Epicurus, whether one argument (or set of terms) or another leads to the truth about imperceptibles depends upon which argument (or set of terms) employs consistently the generalizations about existence that will apply both to the perceivable and the imperceptible bodies. Thus, in the example above in which Epicurus argues that the motion or rest of a compound body is different from, and a product of, the motions of the combining atoms, Epicurus appealed to general considerations about bodies, which explained what the perception of the motion or rest of perceivable bodies would not explain. For, although the perceivable parts of a perceivable body are at rest

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[1]H, secs. 43 and 62. [2]H, secs. 37-38. [3]Life, sec. 33.

or in motion as the perceivable body is, general considerations about bodies and space, considerations that have permitted one to know the imperceptibles, lead one to conclude that the atoms of a compound body do not all move or remain at rest as the perceivable parts of the perceivable body do. When the imperceptibles are under consideration, arguments that proceed from generalizations from preception (both general concepts and general propositions)[1] lead to the truth about imperceptibles, whereas the truths about particular perceivable facts are true only with respect to those perceivable facts.

An example of Epicurus' use of analogy is his account of the minimal parts of atoms by analogy to the minimal parts of perceivable body.[2] An example of his arguing to an imperceptible cause or condition for perceivable occurrences is his argument that there is void, because bodies must be in and move in something.[3]

However, Epicurus' use of the evidence of perception is not consistent. In some cases he holds that there are imperceptible things analogous to perceivable things; in other cases he does not. Although he holds that perception is veridical and although colors, odors, flavors, sounds, and temperatures are perceived, yet Epicurus does not allow that the imperceptibles have these qualities.[4] Epicurus cannot argue that such qualities only occur when perceived, since he holds

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[1]How this happens is explained supra, the previous page and Chapter VII, pp. 158-59.

[2]H, secs. 58-59. See also supra, Chapter I, pp. 4-6.

[3]H, secs. 39-40. See also supra, Chapter I, pp. 4-6.

[4]H, sec. 55.

that the emanations of the qualities are constantly leaving compound bodies--are really attributes of compound bodies, whether or not any perceiver receives these emanations.[1] But still he holds that size, shape, and weight are constant whereas the perceived qualities are not,[2] and thus whatever exists always has size, shape, and weight but not the other qualities.

That what exists has only size, shape, and weight but not the other qualities is not obviously true. The evidence of perception does not support this view. For only so long as a body is perceivable by vision (and thus known to have color) is it known to have size and shape. Or only so long as a body is perceivable by touch (and thus known to have temperature) it is also known to have size, shape, and weight. Sounds and odors are not perceived as having themselves size, shape, and weight; and although flavors might be regarded as being associated with things that do have size, shape, and weight, if the tongue or palate is also touching something when a flavor is tasted, it is also the case that sometimes flavors remain when the tactile sensation is gone, or sometimes there are flavors belonging to things too small to be felt. And, thus, again one is having a perception of something that does not have size, shape, and weight. However, even in the clear case of perceiving size, shape, and weight, a color or a tactile quality is always present with some or all of these qualities. When the tactile or visual quality is gone for perception, so are these other qualities gone for perception.

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[1] H, secs. 46a-51.

[2] H, sec. 54

To support his view that size, shape and weight do belong to atoms but that temperatures, odors, flavors, colors, and sounds do not, Epicurus argues that the perceivable qualities change where, for example, shape remains; thus, while shape is constant and ultimately real, perceivable qualities are not.[1] This, however, is not an obvious observation either. For, although the color and temperature of a body may change more frequently than does the shape, shape does change. Epicurus says that color may change or disappear, but shape remains in a way different from the way color does.[2] But one must object that so long as one can know that a body has shape, one must know that it has some visible or tactile quality. In this particular case, then, one must conclude that Epicurus does not consistently use the evidence of perception to determine the nature of reality, but rather, uses selected perceivable facts to support what in Democritus' atomism he wishes to employ.

Democritus holds that the atoms do not have perceivable qualities. Epicurus supports that proposition according to his own criteria: his inconsistent use of those criteria indicated that Democritean Atomism may not be supported by Epicurean Empiricism.

Epicurus' adoption of a modified form of Democritus' atomism and a form of empiricism creates another problem in his system. For although he holds that the ultimate realities do not possess the perceivable qualities, yet he also holds that the perceivable qualities of compound bodies are in some sense real, and because they are real

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[1] H, sec. 55.

[2] Ibid.

perception is veridical. But if one bases one's system upon a form of atomism, one cannot demonstrate that the perceivable qualities of compound bodies possess any reality at all.

In Chapters IV and V, I demonstrated that Epicurus cannot provide an adequate account of the reality of perceivable qualities of compound bodies. Because Epicurus cannot provide an adequate account of the reality of perceivable qualities he cannot establish the legitimacy of arguing from the evidence of perception to the nature of the imperceptibles upon which the perceivables are supposed to be founded. For the relationship between perceivable attributes and atoms has not been established. And if his atomism is the correct account of reality, then it would seem that perceivable attributes are appearances only. If his view that perception is veridical is correct, then his atomism is, perhaps, incorrect, or, if not incorrect, at least incomplete. For his atomism, as it stands, cannot explain the reality of perceivable attributes.

Epicurus fails to be consistent in another way. For he sometimes argues that certain imperceptible things must exist as the conditions or causes for occurrences in experience that could not otherwise be explained; but sometimes he does not. For example, on the one hand, he argues that the void must exist in order to account for the fact that bodies are somewhere and are in motion; for if there were not the void, there would be no place in which bodies could be or move. On the other hand, Epicurus does not hold that there are incorporeal spirits, presumably because he does not perceive such things. However, since his materialist account of the soul is inadequate to account for

the kinds of attributes that the soul is known through experience to have, it seems that his explanation of the soul should have been made in light of the same sort of evidence that he used in his explanation of the void. In Epicurus' system, it is permissible to appeal to the evidence of experience in order to argue for an imperceptible condition or cause that explains an experienced effect. The soul is imperceptible; and Epicurus does appeal to some of the evidence of experience in order to attribute to this imperceptible some attributes that would account for its being the cause or condition of these experienced effects. But Epicurus does not take heed of all of the evidence.[1]

Epicurus' materialist account of the soul, although consistent with some of his principles and with some of his criteria of truth, is inadequate to account for sentience and thinking, the very things it was designed to explain. However, if Epicurus had used consistently the evidence that he suggests one use and in the way in which he sometimes uses it himself, he might have discovered that the materialist account of the soul is inadequate. For Epicurus says that it is legitimate, in the examination of the soul, to use as a measure, one's feelings and one's acts of apprehension.[2] If he had considered what kind of thing must be the cause of such things, he might have discovered a more adequate account of the soul than his materialist account. Just as inquiry into the nature and source of perceivable bodies rests upon what is perceived, so also an inquiry into the nature and source of perceiving and feeling and thinking must rest upon what is discov-

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[1]See supra, Chapter VII, p. 173.

[2]H, sec. 55.

ered in these acts. Epicurus, limited by his predisposition towards atomism, attends only to what in these acts is consistent with atomism; for example, he attends to the speed with which such acts occur; for speed can be attributed to bodies in motion. Other aspects of these acts, aspects that do not seem to be physical entities or qualities of physical entities, are not taken into account by Epicurus.

If one reflects upon these acts, one does not discover any bodies in motion. One does discover a common factor in all acts of the soul; that is to say, one discovers that all acts of the soul are acts of awareness or ultimately issuing from a single source that is the source of awareness. For one finds that each of the acts of one's soul is a part of the history of acts of a single entity whose defining characteristic is that of awareness, not that of corporeality.[1] It seems to me, then, that just as one must conclude that there are bodies and the void underlying the bodies perceived (because one perceives bodies that move), so also one must conclude that there is a single source of awareness underlying sentient and cognitive acts. This conclusion, however, Epicurus does not make. Rather, he concludes that the soul is an aggregate of atoms; this aggregate of atoms must be the cause of sentience.

By analogy to the explanation of the unity and identity of perceivable compound bodies that I offered in Chapter III, I attempted in Chapter VII to account for the unity of the soul. However, I observed that the unity of parts in an organic whole is not the kind of

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[1]See supra, Chapter VII, pp. 183-85.

unity required to explain the unity of awareness. The unity of awareness stands behind all acts of awareness and makes them a part of the history of all past awarenesses belonging to the entity that is aware. Although the organic unity of the aggregate of atoms is explanatory of the unity of perceivable compound bodies, and although it can be explanatory of the unity of the soul as a single corporeal thing, it does not explain the kind of unity that is distinctive of the soul and that serves as the ultimate explanation of all other qualities of the soul. It seems to me that the unity of awareness would be the sort of attribute of the imperceptible that one would be led to assert exists on the basis of experience. For, since certain sorts of experience exist, a certain thing that is not directly experienced must exist as a condition or cause of those sorts of experience.

Lastly, Epicurus' Canon and his account of the nature of the soul provide an inadequate account of the formation and use of general concepts. The materialist explanation of perception and cognition, which is derived from Epicurus' atomism and the information he provides concerning concepts and knowledge, is one in which there can be only particular images in the mind as a result of concept formation. Since, for Epicurus, when anything acts or suffers it must physically touch or be touched, the reception of an image from sensation, storing it in memory, and retrieving it from memory must be physically explained (some bodies must touch each other). The sensation is an aggregate of atoms and so is the sense-organ. Sensations are particular; concepts are formed from them; the corporeal sensations are combined or compared by the physical activity of the corporeal mind. What

results from this activity is another particular sensation, perhaps combined from two or more others, but still possessing only particular features. I developed this account from what Epicurus writes about the criteria of truth, first notions, and what Diogenes Laertius suggests about concept formation.[1] Concepts are used when one makes judgments about new sensations and when one thinks in general terms about the world. But when general concepts are really particulars, how can one be expected to judge of a new experience that it belongs under the scope of an image that cannot have nearly so broad a scope as the word with which it is associated? How can one use a particular image of a cow to judge: "This is a cow, but unlike other cows I have seen, it is red and white rather than black"? Or how can one use a particular image to represent animals in general rather than a particular kind of animal? What would such an image look like? Or, if our general concepts are really particulars, how can one be expected to realize that all things are either bodies or space, or that all acting and suffering is owing to physical contact?

If one is to explain the use of particular images as general concepts, one must, it seems to me, then suppose that there is in the mind a faculty that is able to note similarities. This very noting of similarities, I think, requires a non-particular concept of some sort that is able to embrace the sorts of similarities to be noted; but whether this latter point is correct or not, Epicurus cannot account for our ability to think in general concepts in the second way either--

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[1]See H, secs. 37-38, and Life, secs. 32-33. See, also, supra, Chapters I and VII, pp. 1-6 and 148-63.

that is to say, he cannot account for a mind that is able to note similarities. For Epicurus' explanation of the mind does no more than to explain the mechanics of bodies moving when similarities are noted. To say that the mind physically places side by side physical images for comparison does not explain the faculty of making the comparison. And, again, in terms of what would the comparison be made if there is not a concept that actually features the aspect in terms of which the comparison is to be made and that does not feature only an instance of that aspect? Both the fact that Epicurus cannot give an account in which general concepts are possible and the fact that he cannot actually explain in his theory of the soul how similarities are noted, lead me to judge that his account of knowledge is untenable.

Epicurus account of concept formation also prohibits him from making use of his account of properties. For it is through its properties that a thing is known; but, because emanations from bodies are particular and these emanations are the source of concepts, the concept of a property, which is a general disposition or condition of a body, is never known directly.[1] Only through using an accident, an instance, as a representative of a property can one think of a property at all. But an accident is not a property, and one cannot capture the sense of a property through attending only to an instance. Epicurus holds that it is by its properties that the nature of an object is determined in existence and is known;[2] but Epicurus cannot account for

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[1]See supra, Chapter VII, pp. 158-59.

[2]See H, sec. 69.

knowing properties but only instances of properties. So, in effect, Epicurus cannot account for knowing the natures of bodies.

Epicurus' account of the formation and use of concepts causes difficulties in his ethical theory as well. Before explaining those difficulties, however, I shall give a brief account of his ethics and explain how it is based upon his physics.

Epicurus begins the letter to Menoeceus by enjoining one to study philosophy, to believe that the immortal and blessed gods exist, and to believe that death is nothing to us.[1] He then discusses, in some detail, desire and pleasure.

The study of philosophy, he holds, leads to blessedness.[2] In the more detailed examination of pleasure he explains why this is the case. The many believe that the gods exist; in this they are correct. However, the gods do not conduct themselves in the way that the many believe them to. That is to say, the gods exist as immortal and blessed beings; for the gods to interfere in the lives of men, to benefit the virtuous or harm the vicious, would be inconsistent with their immortal and blessed nature.[3] Death is nothing to us because at death one is no longer and thus cannot suffer.[4]

Epicurus divides desires into natural and vain. Natural desires are either necessary or just natural; and necessary desires are necessary either for happiness or for the repose of the body. Epicurus goes on to say that the right understanding of the nature of

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[1] M, secs. 122-23. [2] M, sec. 122, and H, secs. 37 and 83.

[3] M, sec. 123. [4] M, sec. 124.

desire enables us to refer all choice and avoidance to the health of the body and the freedom from disturbance in the soul. These last two are what we aim for in the life of blessedness; and to obtain the life of blessedness we must avoid pain and fear, the evils of the body and the soul respectively.[1]

Because, in order to obtain blessedness, we must avoid pain and fear, pleasure is the beginning and the end of the blessed life. For pleasure is the objective--health in the body and freedom from fear in the soul--and pleasure is the object of desire. Thus the measure of choice and avoidance should be pleasure and pain. We must avoid the opposite of pleasure--in the body, pain; in the soul, fear.[2]

More specifically, the pleasant life, writes Epicurus, is brought about by sober reasoning, searching out the motive for all choice and avoidance, and banishing mere opinions, to which are due the greatest disturbance of the soul.[3] The mere opinions that must be banished are those concerning the gods, death, and the end of nature. The wise man understands, further, that praise and blame pertain to what is in our control, and that good and evil are neither given by chance nor by necessity, but are owing to our own efforts.[4]

The aim of blessedness is achieved essentially through knowledge: Knowledge of what desires are necessary and how they are best fulfilled,[5] and knowledge which banishes fears in the soul, fears founded on false opinions about the gods, death, and the end of nature.[6]

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[1]M, secs. 127-28. [2]M, secs. 128-29. [3]M, sec. 132.

[4]M, secs. 133-34. [5]M, sec. 127. [6]M, sec. 133.

On the first kind of knowledge one bases one's deliberations concerning choice and avoidance. The fruit of deliberating properly is pleasure in the body or the avoidance of pain. In deliberating about such things, one must understand that pleasure is good and pain is evil.[1] However, the result of this understanding is not that one pursues physical pleasures without restraint, but with great moderation. For if one understands matters of choice and avoidance properly, one understands that the pursuit of physical pleasures without restraint does not bring about freedom from pain in the body, but greater pain as a result of them.[2] One also understands that the greatest pleasure of the soul goes along with the attainment of knowledge.[3]

Knowledge also has its fruit in the pleasure of the soul--that is to say, in freedom from fear. For the opinion that the gods interfere in human affairs causes men to fear the gods. In fact, the gods are immortal and blessed, and are not of such a sort to interfere in human affairs.[4] It is also necessary to understand death so that one does not fear it. Death is nothing to us because upon death we no longer exist, and thus cannot suffer.[5] Lastly, we must understand the nature of reality so that we do not fear necessity or chance. For, according to Epicurus, praise and blame are naturally attached to what is in our control, and good and evil are in our control. We are not bound by necessity; and chance does not give us good and evil, but the

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[1]M, sec. 128.

[2]M, sec. 129.

[3]Vatican Fragment XXVII.

[4]M, secs. 124 and 133-34.

[5]M, sec. 124.

opportunities for good and evil. The blessed life accrues to one who directs his life by sober reasoning; such a man can take the opportunities afforded him by chance and turn them to good. That he acts reasonably is the most important factor in a man's life, if he is to acquire blessedness.[1]

I shall consider here two ways in which the physics is supposed to support the ethics of Epicurus. The physics is supposed to support the ethics in providing knowledge that will allay the fears that disturb the soul. The physics, in conjunction with the criteria of truth, is supposed to support the ethics in providing a theory of knowledge that can account for one's knowing the things that Epicurus claims one can and must know in deliberating about choice and avoidance and in allaying the fears of the soul.

Epicurus' ethics finds its support in his atomistic account of the nature of the soul, in his atomistic account of the source of all things, and in his view that because the atoms swerve there is chance in the universe.[2] The truths about the nature of the soul, the

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[1]M, secs. 133-35.

[2]I assume that Epicurus holds that there is chance in the universe because he says in the letter to Menoeceus (sec. 134) that chance affords us the opportunity for good and evil, but is not an unreliable cause. I think that he means, not that all is uncertain, but that all is not determined. There is order in the universe owing to the mechanical relationships that the atoms have to each other. At the same time, all does not happen of necessity; men's souls are not mechanistically determined and not all events are mechanistically determined. Thus, men are masters over themselves and can alter events. Further, we are not necessarily bound to experience a certain chain of events predetermined in the order of things. The future is not absolutely determined by whatever collisions the atoms have undergone, since the atoms do swerve.

nature of the gods, and the connections between things are discovered in the study of physics. Proper understanding of the nature of things frees one from the fear of death and the fears brought about by ignorance in religion or philosophy. Ignorance in religion consists in believing that the gods interfere in the lives of men. Ignorance in philosophy consists in believing that all things come about of necessity.[1] The fear of death arises from ignorance about the nature of the soul.

Since the only causes are the atoms in the void; the soul, too, is an aggregate of atoms. In his ethics, Epicurus argues that death is nothing to us; for death is deprivation of sensation, and all good and evil consist in sensation.[2] Epicurus' view on the soul, in the letter to Herodotus, is that it is the cause of sensation and that its being the cause of sensation, indeed its very existence, is dependent upon its being embraced by the body. At death the body can no longer embrace the aggregate of atoms that is the soul; and so the soul disperses and no longer has sensation.[3] Since the only causes are atoms in the void, and since the atoms swerve unaccountably, there is chance in nature and free will in men's souls. Our lives are not absolutely determined, neither by completely determined relations among the atoms of our souls, nor by completely determined events in the world. And since atoms in the void are the only causes--not even motion needing a separate cause, since the atoms are always in motion--

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[1] M, secs. 123-24 and 134.

[2] M, sec. 124, and KD II.

[3] H, secs. 65-66.

the gods are not causes.

The criticisms of Epicurus' atomism that resulted from my examination of his position, explained in the preceding chapters, are directed towards these points of support for his ethics: The explanation of the soul as an aggregate of atoms, the explanation of free will in terms of the swerve of the atoms, and the explanation of the perceivable world in terms of atoms that do not possess perceivable attributes. If it is not possible to give an adequate account of the soul as an aggregate of atoms and the void, then perhaps it is necessary to posit some other cause or causes than the atoms. If that is the case then a resolution of the problem of the fear of death, different from the one Epicurus provides, may be needed. If it is necessary to posit other causes than the atoms, both to explain the soul and to explain the perceivable world, then it is necessary to alter Epicurus' explanation of reality. If it is necessary to alter Epicurus' account of reality, then his solution to the problems caused by ignorance about causality and the gods no longer holds.

Epicurus' atomism falls short in the explanation of the soul and in the explanation of the world of perception. If, in response, Epicurus were to add other explanatory entities or forces to his account of reality, then, most likely, he would also have to alter his answers to problems in ethics concerning fear of death, fear of determinism, and fear of the gods--for, his supporting explanations would be different.

In his ethics, Epicurus enjoins one to pursue knowledge for the sake of blessedness, because knowledge is the guide in choice and

avoidance, because knowledge removes the fears of the soul that are induced by false opinions, and because the possession of knowledge in itself is pleasant to the soul. The study of physics is supposed to provide the latter two kinds of knowledge, which are conducive to blessedness. The first kind is determined by one of the criteria of truth, that is, feelings. I have noted problems in the physics, problems that are related to the kinds of knowledge conducive to blessedness. Epicurus' account of the soul is inadequate both with respect to choice and avoidance (for he has not adequately explained free will) and his account of the soul is also inadequate to explain concept formation. Knowledge, he says, is obtained through sensations, feelings, and concepts. Because concepts are used in obtaining knowledge and knowledge is conducive to blessedness, the Epicurean account of the formation and use of concepts is relevant to ethics. The explanation of the formation of concepts should permit one to explain the kinds of concepts one uses in making choices.

It seems to me that in order to think about ethical matters, one must be able to form general concepts in one's mind, concepts that embrace that with which one is concerned. According to the account of the formation and use of concepts that I deduced, in the preceding chapter, from Epicurus account of the criteria of truth and the nature of the soul, a general concept is a particular instance of a kind or several instances of a kind, instances drawn from memory--having their origin ultimately in sensation or feeling.

A general concept of red is an image of red, which was at one time received in sensation and which is now drawn from memory

where the image has been stored. When the image is brought out of memory it is again an image held before the mind. By analogy, then, a general concept of pleasure or pain should be a particular feeling of pleasure or pain, which was once felt and is now drawn from memory where the feeling has been stored; and this feeling is now again before the mind. The image is perceived (that is to say, seen) again; thus the feeling is again perceived (that is to say, felt). To conceive of pleasure or pain is to feel again a pleasure or pain experienced in the past.

When I examine the contents of my thought when I am thinking of pleasure or pain I do not find that I am experiencing a vivid sensation of a pleasure or a pain. Indeed, when I remember a sensation of pleasure or pain that I experienced in the past I do not have a vivid sensation of that pleasure or pain. According to the Epicurean account the conception of a sensation is the experiencing of a remembered sensation.

I do not cry out in pain when I think about the time that my finger was crushed in a door. Very occasionally, when I remember a time that I felt the pain of embarrassment and I feel the pain of embarrassment, it is because I am actually still embarrassed by whatever it was that happened--I say, "I still blush when I think of doing that." So also I might occasionally feel a pain in an old wound, not out of remembrance of a pain once felt, but because my attention is directed to the old wound that still hurts. The remembrance of a pain or pleasure, however, is not the actual experiencing again of that pleasure or pain.

According to Epicurus, good is pleasure, and evil is pain.[1] But when I think of good, I do not feel pleasure, nor do I feel pain when I think of evil. Of course, one might have a feeling when having a thought, but the feeling is not the thought. Rather one feels something, pleasure or pain, because the thought itself causes, in addition, a feeling of pleasure or pain in the soul; but this is not the pain that is evil or the pleasure that is good. For example, a good man feels uncomfortable, perhaps, at the thought of a life of vice; but his discomfort is not the thought of what is evil but a result of thinking of something evil.

The very reason that one finds it necessary to conduct one's life according to principles and not according to immediate sensations is that immediate sensations by themselves are not indicative of painful or pleasurable consequences that such sensations might have. Epicurus holds that one must, in the determination of of conduct, consider the causes and consequences of particular acts referred to particular immediate pleasures and pains.[2] Even when one thinks of the pain that is associated with a present pleasure, one cannot feel it. For this reason a man sometimes will repeatedly indulge in a pleasure that he knows will bring pain as a consequence.[3] Thus, if one's conduct is to be informed by one's concepts of pleasure and pain, one's concepts of pleasure and pain must be understood to be something different from instances of feelings of pleasure and pain. For concepts of pleasure

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[1]M, sec. 129.

[2]M, secs. 127-130.

[3]For example, over-indulgence in the various pleasures of the flesh.

and of pain are not feelings; and even if they were, they would be useless for the determination of conduct. If it were possible to bring to mind an actual pain felt or pleasure enjoyed, these immediate sensations themselves could not be employed as the standard of human conduct because standards of conduct must bring to bear upon an intended act the consequences of the act. But immediate feelings do not function in that way.

A concept of pleasure or of pain that is simply a feeling of pleasure or pain could not be employed as a standard in human conduct on Epicurus' view. For, according to Epicurus, the standard of human conduct is not a simple feeling of pleasure but a concept of a man's general well-being--that is to say, bodily health and freedom from disturbance in the soul.[1] Yet, according to Epicurus' theory of the formation and use of concepts, a pleasurable feeling must be used as the meaning of the general term "pleasure." Thus, Epicurus' theory of the formation and use of concepts does not support his ethics.

Surely Epicurus must have realized that it is only by taking account of many considerations and their mutual interrelations that one is able to determine in what the general well-being of a man consists.[2] The very sort of life that Epicurus enjoins one to live cannot be conceived simply in terms of a pain to be avoided or a pleasure to be pursued; rather it must be conceived in terms of the relative value of various kinds of pleasures and pains, while at the same time one understands the causes of pleasures and pains and the consequences

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[1] M, sec. 128. [2] See, for example, M, secs. 132-34.

of them. However, if this process of comparison is to be explained in terms of Epicurus' theory of concepts, then one would have to make all of these comparisons and judgments in terms of particular instances of pleasure and pain, in terms of immediate feelings.

Even if it were possible for the mind to hold before itself a number of instances of real pains and real pleasures, both of the body and of the soul, and to connect them with particular sensations of their causes and consequences, I question that one could by so doing judge the relative values of one pain and another pleasure, or of the pleasure of the soul as opposed to the pleasure of the body. It does not seem that the intensity of a pain can be measured and compared with the intensity of a pleasure, or that the intensity of a pleasure of the soul is comparable with the intensity of a pleasure of the body. One recoils from or pursues one or another of these when they are present, but one cannot compare the actual intensity of a present one with one absent. Further, one may decide to bear a pain and not recoil from it for the sake of health in the body and the freedom from disturbance in the soul. These two, health in the body and freedom from disturbance in the soul, are the ends, according to Epicurus.

The thought of health in the body or freedom from disturbance in the soul cannot be particular instances of felt pleasures nor can the lack of these be particular instances of felt pains; they are general conditions of the body or of the soul. Epicurus' general concepts will not work for ethical thinking; the materialist account of the formation of concepts is inadequate to account for the way in which Epicurus himself uses concepts to discourse on the proper mode of human

conduct.

To describe the inadequacies of Epicurus' position demonstrated in this dissertation, one could speak in terms of the cause of the inadequacies and the effect of them. The cause lies in the incompatible union of Democritean Atomism and Epicurean Empiricism; for Democritean Atomism has as its appropriate epistemological conjunct, empirical skepticism. Consequently, Epicurus' Atomism cannot be used, as he thought it could, to explain the reality of perceived attributes; nor can these attributes constitute a starting point for an account of the ultimate realities. But, Epicurus thought that they could. Further, the position on the formation and use of concepts that generates out of Epicurus' atomistic account of the soul and out of his empiricism, proves to be inadequate to explain both the concepts we do have and use, and the acts of the mind in forming and using these concepts.

The effect of the position generated out of Epicurus' inconsistent starting point is the failure of that position to serve as a support for his ethics. Yet, Epicurus held that his physics was a support of his ethics. But at the very points of putative support, his physics is weak; his physics fails to provide the knowledge that is to remove what Epicurus regards as needless fears founded on ignorance, fears that interfere with the satisfactory conduct of life. But, failing to provide knowledge of the nature of reality and the nature of the soul, Epicurus fails to remove the ignorance and the consequent fears. Even if one were to go on to accept Epicurus' position that death, the gods, and determinism are not to be feared, one would still be confronted with an incompatibility in Epicurus' ethics which results

from his failure in physics. For his account of the formation and use of concepts does not explain the concepts that he says are formed for, and used in, the consideration of human conduct; nor again, could his account of the soul explain the ways in which the soul does form and use these concepts. Epicurus' position begins with an inconsistency that exhibits itself at crucial points throughout the explication of that position.

BIBLIOGRAPHY

EPICURUS

Texts, translations, commentaries

Bailey, Cyril. Epicurus: The Extant Remains (with short critical apparatus, translation, and notes). Oxford: Clarendon Press, 1926.

Bignone, Ettore. Epicuro (translation with critical and explanatory notes and appendices). Bari: G. Laterza, 1920.

Brieger, A. Epikurs Brief an Herodot (translation and commentary). Halle: Program des Stadt-Gymnasiums, 1882.

Muehll, P. van der. Epicuri Epistolae Tres et Ratae Sententiae. Leipzig: Teubner, 1922.

Usener, H. Epicurea. Leipzig: Teubner, 1887.

LUCRETIUS

Texts, translations, commentaries

Bailey, Cyril. Lucretius' De Rerum Natura (edited with prolegomena, critical apparatus, translation, and notes). Oxford: Clarendon Press, 1947.

Brieger, A. Lucretius' De Rerum Natura. Leipzig: Teubner, 1894.

Giussani, C. Studi Lucreziani (text and commentary of De Rerum Natura and translation of Epicurus' works). 2nd ed. Turin: Loescher, 1896.

Munro, H. A. J. Lucretius' De Rerum Natura (test and commentary). 3rd ed. Cambridge: Cambridge University Press, 1873.

Rouse, W. H. D. Lucretius' De Rerum Natura. 3rd ed. Cambridge: Harvard University Press, 1937.

RELATED WORKS

Alfieri, V. E. Atomos idea. Florence: Le Monier, 1953.

Arnim, H. van. "Epicuros." Real Encyclopaedie. Supp. vol. xi, 1968. (Updated by J. Stechel.)

_____. "Epikurs Lehre von Minimum." Almanach der Weiner Akademie der Wissenschaften, 1907.

Atanassievitch, Xenia. L'Atomisme d'Epicure. Paris: Presses Universitaires de France, 1926.

Bailey, Cyril. The Greek Atomists and Epicurus. Oxford: Clarendon Press, 1926.

Beare, John I. Greek Theories of Elementary Cognition. Oxford: Clarendon Press, 1906.

Bevan, Edwyn Robert. Hellenism and Christianity. London: B. Allen and Unwin, 1921.

_____. Hellenistic Popular Philosophy. Cambridge: Cambridge University Press, 1923.

Bignone, Ettore. L'Aristotele perduto e la formazione filosofica de Epicuro. 2 vols. Florence: La Nuova Italia, 1936.

_____. Conferme ed aggiunte all' "Aristotele perduto e la formasione filosofica de Epicuro" dall'Epistola a Pitocle e della meteorologica epicurea. Brussells: Melanges Boisacq, 1937.

_____. "La dottrina epicurea del clinamen." Atene e Roma, 3, 8 (1940).

_____. "Lucrezio come interprete della filosofia de Epicuro con nuove conferm dell'Aristotele perduto." Italia e Grecia: Florence, 1939.

_____. Storia della leteratura latina (Vol. II, chap. vi to viii and appendix). Florence, 1945.

Braga, Gaetano Capone. Studi su Epicuro. Milan: C. Marsorati, 1951.

Brieger, A. "De atomorum Epicureorum motu principali." Philosophische Abhandlungen (1888)

_____. "Epikurs Lehre vom Raum." Philologus, 62 (1901).

_____. "Epikurs Lehre von der Seele," Programme. Halle (1893).

_____. "Die Urbewegang des Atom bei Leukipp und Demokrit," Programme Halle (1884).

Burnet, John. Early Greek Philosophy. 4th ed. London: A.&.C. Black, 1930.

Cocchia, E. "L'arte di Lucrezio nella rappresentazione dei corpi invisibili," Miscellanea Stampini. Turin, 1921.

Cornford, F. M. From Religion to Philosophy. New York, Longmans, Green, and Co., 1912.

De Lacy, Philip H. "The Epicurean Analysis of Language." American Journal of Phiology, LX (1939).

Denniston, J. D. Greek Particles. 2nd ed. Oxford: Clarendon Press, 1954.

Denizet, F. "Lucrèce et les nouvelles connaissances scientifiques." Mém. Acad. Marseille, 1928.

De Witt, Norman W. "Epicurus Relocated." Arion, III (Autumn, 1964).

De Witt, N. W. Epicurus and his philosophy. Minneapolis: University of Minnesota Press, 1954.

_____. "Organization and Proceedure in Epicurean groups," Classical Philology, no. 31 (1936).

_____. St. Paul and Epicurus. Minneapolis: University of Minnesota Press, 1954.

Diano, C. Epicuri Ethica. Florence: Sansoni, 1946.

_____. "La psicologia d'Epicuro e la teoria dell passioni." Giornale Critico della Filosofia Italiana (1939).

Elder, J. P. "Review of Norman W. De Witt, Epicurus and his Philosophy." American Journal of Philology, LXXVII (1956).

Farrington, B. The Faith of Epicurus. London: G. Allen and Unwin, 1967.

_____. Science and Politics in the Ancient World. London: G. Allen and Unwin, 1939.

Festugiere, A. J. Epicurus and his Gods. Translated by C. W. Chilton. Cambridge, Massachusetts: Harvard University Press, 1956.

Freeman, Kathleen. "Epicurus- A Social Experiment." Greece and Rome, VII (May, 1938).

Friedlaender, P. "The pattern of sound and the atomistic theory in Lucretius," American Journal of Philology, 62 (1941).

Furley, David J. Two Studies in the Greek Atomists. Princeton: Princeton University Press, 1967.

Gilbert, Otto. Die meteorologische Theorien des griechischen Altertums. Leipzig: B. G. Teubner, 1907.

Giuffrida, P. L'epicureismo nella letteratura latina. 2 vols. Turin, 1940, 1950.

Gomperz, T. Greek Thinkers. Translated by Magnus and Berry. London: J. Murray, 1901-12.

_____. "Neue Bruchstuecke Epikurs insbesondere ueber die Willensfrage." Sitzungsberichte der Kaiserlichen Academie der Wissenschaften zu Wien, 83 (1876).

_____. "Die Ueberreste eines Buches von Epikur περι φυσεως." Wiener Studien, 1 (1879).

Green, William C. Moira Fate, Good and Evil in Greek Thought. New York: Harper and Row, 1963.

Guthrie, W. K. C. A History of Greek Philosophy. Cambridge: Cambridge University Press, 1965.

Guyan, Jean Marie. La Morale d'Epicure. Paris, 1878.

Hadzsits, G. D. Lucretius and his Influence. New York, Cooper Square, 1935.

_____. Lucretius and Epicureanism. Boston: Marshall Jones Co., 1926.

Hicks, Robert Drew (trans.) Diogenes Laertius' Lives of Emminent Philosophers. Cambridge, Massachusetts: Harvard University Press, 1925.

_____. Stoic and Epicurean. New York: Chas. Scribners' Sons., 1910.

Houghton, H. P. "Lucretius and De Rerum Natura. Appreciation and Appraisal." Humanitas III (1950-51).

Jaques, Jean. "Lucrèce et l'histoire de l'atomisme chimique," La Pensée, (new series), No. 62.

Jaeger, Werner. Paideia: The Ideals of Greek Culture. Translated by Gilbert Hightet. 3 vols. New York: Oxford University Press, 1944.

Jeffers, Samuel A. The Philosophical Vocabulary of Lucretius. Diss. Michigan, 1900.

Jensen, Christian. Ein neuer Brief Epicurs. Berlin, 1933.

Joyau, Émmanuel. Épicure. Paris, F. Alcan, 1910.

Kerferd, G. B. "Epicurus' Doctrine of the Soul." Phronesis, Vol. 16 (1971).

Kirk, G. S., and Raven, J. S. The Presocratic Philosophers. Cambridge: Cambridge University Press, 1957.

Kochalsky, A. Das Leben und die Lehre Epikurs. Leipzig: Teubner, 1914.

Koenig, Ad. Lucreti de simulacris et de visa doctrina cum fontibus comparata. Diss. Greisswald, 1914.

Lange, F. A. History of Materialism. Translated by E. C. Thomas. 3 vols. New York: Harcourt, Brace and World, 1925.

Lippmann, E. O. von. "Die Lehren der Atomistik bei Lucretius," Brussels: Mélanges Bidez, 1934.

Luria, S. "Die Infinitesimallehre der antiken Atomisten." Quellen und Studien Zur Geschicte der Mathematik, B2 (1933).

Marquand, Allan. "The Logic of the Epicureans." Studies in Logic. Boston: Little, Brown and Co., 1883.

Masson, John. The Atomic Theory of Lucretius. London: George Bell & Sons, 1884.

_____. Lucretius, Epicurean and Poet. 2 Vols. New York: E. P. Dutton, Co., 1907, 1909.

Mau, Juergen. "Studien zur erkenntnistheoretischen Grundlage der Atomlehre im Altertum." Wissenschaftliche Zeitschrift der Humboldt-Universitaet zu Berlin, 2 (1952-53).

_____. Zum Problem des Infinitesimalen bei den antiken Atomisten. Berlin: Akademie-Verlag, 1954.

_____. "Ueber die Zuweiszung zweir Epikur-Fragmente." Philologus, 99 (1955).

Merbach. De Epicuri Canonica. Weida, 1909.

Merlan, Philip. Review of Bignone, L'Aristotele perduto e la formazione filosofica di Epicuro. Florence: La Nuova Italia, 1936.

_____. Studies in Epicurus and Aristotele. Wiesbaden: Otto Hurrassowitz, 1960.

Mewaldt, J. Der Kampf des Dichters Lukrez gegen Epikur. Wien, 1935.

_____. "Lucretius." Real Encyclopädie, Vol. xiii (1927).

Momigliano, Arnoldo. "Review of B. Farrington, Science and Politics in the Ancient World." Journal of Roman Studies (1941).

Mueller, G. Die Darstellung der Kinetik bei Lukrez. Berlin: Akademie Verlag, 1959.

_____. "Die Problematik des Lukrez-textes seit Lachmann." Philologus (1958 and 1959).

Mussehl, J. "Über eine Aporie in der Lehre von den Aggregatzustanded bei Lukrez (II. 444-447)" Hermes, 53 (1918).

Panichas, George A. Epicurus. New York: Twayne Publishers, Inc., 1967.

Pascal, C. "La declinazione atomica in Epicuro e Lucrezio." Riv. di filol (1902).

Philippson, R. "Zur epikureischen Götterlehre," Hermes, LI (1916).

Robin, L. "L'atomisme ancien," Revue de synthese, 6 (1933).

Sambursky, Samuel. The Physical World of the Greeks. New York: Collier Books, 1954.

Sandys, J. E. A History of Classical Scholarship. 3 vols. Cambridge: Cambridge University Press, 1903-1908.

Santayana, G. Three Philosophical Poets; Lucretius, Dante, and Goethe. Cambridge: Cambridge University Press, 1910.

Schmid, W. Ethica Epicurea. 1939.

_____. "Epikurs," Reallexikon für Antike und Christentum, Vol. 5 (1961).

_____. "Review of O. Tescari and E. Bignone and Lucretius." Gnomon (1940).

Schöemann, G. F. De Epicuri Theologia. 1864.

Schultz, P. R. "Das Verstadnis des Raumes bei Lukrez," Tijdschrift voor Philosophie (1958).

Sellar, W. Y. The Roman Poets of the Republic. 3rd ed. Oxford: Clarendon Press, 1905.

Shorey, P. "Plato, Lucretius, and Epicurus," Harvard Studies, 11 (1901).

Simpson, Adelaide D. "Epicureans, Christians, Atheists in the Second Century." Transactions and Proceedings of the American Philosophical Association, LXXII (1941).

Solmsen, Fr. "Epicurus and Cosmological Heresies," American Journal of Philology, 72 (1951).

_____. "Epicurus on growth and decline of the cosmos," American Journal of Philology, 64 (1953).

Smyth, Herbert W. Greek Grammar. Cambridge, Massachusetts: Harvard University Press, 1920.

Stearns, J. B. "Epicurus and Lucretius on Love," Classical Journal, No. 31 (1936).

Tannéry, Paul. Pour l'histoire de la science hellene. Paris: Gauthier-Villars, 1887.

Taylor, A. E. Epicurus. London: Constable and Co., 1911.

Thomas, P. F. De Epicuri Canonica. Paris: F. Alcan, 1889.

Tohte, T. Epikurs kriterien der Wahrheit. Clausthal, 1874.

Turner, J. Hilton. "Epicurus and Friendship." The Classical Journal, XLII (March, 1947).

Vlastos, Gregory. "Minimal Parts in Epicurean Atomism." Isis, 56 (1965).

Vogliano, A. Epicuri et Epicurorum Scripta. 1928.

_____. I Resti del xi Libro de περι φύσεως. 1940.

Wallace, William. Epicureanism. London: Society of Promoting Christian Knowledge, 1880.

Winspear, Alban. Lucretius and Scientific Thought. Montreal: Harvest House. 1963.

William, J. The Fragments of Diogenes of Oenoanda. Leipzig: Teubner, 1907.

Zeller, E. The Stoics, Epicureans, and Sceptics. Translated by O. J. Reichel. London: Logmans, Green and Co., 1922.