Introduction

I

Lucretius was a poet, not a philosopher, and it is as the work of a poet that his poem *De Rerum Natura* ("The Nature of Things") must be read. The poem as it stands is clearly unfinished; it contains repeated and obviously misplaced lines and passages; its argument, for lack of the final hand of organization, is frequently unclear and confusing. But its overall proportions are poetically and artistically sound, its imagery superb, and its word choice and word manipulation as sensitive as any displayed by any of the poets of antiquity. And while Vergil was later to depict, with wonderful patience and understanding, the glory and the joy, the pathos and the tragedy that are the life of man, Lucretius saw into the hearts of individual men as they faced the immediacies of their lives. Lucretius' analysis of why men think and act as they do, why they are affected as they are by the experiences of their lives, day by day, is not always entirely accurate or free from preconception; it is easy enough, from the vantage point of modern psychology, to show where Lucretius erred in his analysis of human thought and behavior. But his sympathy and understanding not of man, but of *this* man and *that* man, not of mankind, but of people, was hardly surpassed in antiquity, and perhaps has never been equaled.

Lucretius (Titus Lucretius Carus) was about ten years younger than Cicero and perhaps ten years older than the lyric poet Catullus. With them, he lived through the fascinating but terrifying years that marked the end of the Roman republic; he must have witnessed Cicero's rise to power, the conspiracy of Catiline, and Julius Caesar's ascendancy. He must have observed the moral breakdown that accompanied the dissolution of old ways as Romans struggled to rise from institutions adequate for a small city-state to standards and institutions that they hoped would be adequate for the governing of a world empire. He most certainly must have been in the middle of the intellectual ferment that brought forth, on the one hand, Cicero's meticulous studies of philosophy and rhetoric and, on the other, the lively, unrestrained, and imaginative poetry of the New Poets, chief of whom was Catullus.

What his position was with relation to the New Poets cannot now be determined; traditionally, it has been asserted that he was a "conservative," who by definition would have had little sympathy with the

rebellious innovations of Catullus and his friends. The fact remains, however, that Lucretius is no less venturesome than they, for he was bold enough to select as his subject a topic never before attempted in Latin literature, to attempt to mold that subject into an epic with all nature as its heroine, to search the Latin language over and over again for a vocabulary adequate to his needs, and to range all over the world of the visible and the imaginary to find appropriate illustrative material for his poem.

Of Lucretius himself very little is known. The chronicler Jerome reports that he was born in the year 95 and died in 52 B.C., but since he adds that the poet died at the age of forty-four, he has either got the length of the poet's life wrong or has erred in reporting the date of his birth or of his death. It is certain only that he was born somewhere in the mid-nineties B.C., and died some time after the mid-fifties, and was forty, or thereabouts, when he died. Jerome has nothing whatever to say about his family; he reports only that the poet was driven mad by a "love potion," that in the intervals of his insanity he wrote "books" which were later edited by Cicero, and that he eventually committed suicide. He tells us nothing of the poet's station in life, whether he was of the aristocracy, as his illustrious name would suggest, or whether he was a freedman or perhaps the merest slave; nor have we any reliable evidence on these points from any other source. Lucretius dedicates his poem to Memmius, generally identified as Gaius Memmius, praetor in 58 B.C. and governor of Bithynia in 57. This would make him identical with the Memmius who, to the poet Catullus, was the embodiment of all evil, yet Lucretius always speaks of Memmius with respect and affection.

As for Jerome's assertion that Lucretius was driven mad by a love potion, we may accept it or not as we choose. Love potions were common enough in antiquity—supposedly aphrodisiac potions administered, whether openly or secretly, to unresponsive husbands and lovers by their wives or mistresses, or *vice versa*. That such concoctions might have produced digestive upsets or have been downright poisonous is not at all unlikely, since the ancient world had a very sketchy understanding of toxicity and hygiene, but that a potion would drive a man insane seems a bit farfetched.

Far more interesting is Jerome's reference to Cicero's having "edited" the "books" that Lucretius wrote. On the face of it, this is a strange assertion, partly because Cicero himself, who in his *Letters* is quite revelatory of the events of his life, makes no mention of any such activity, and partly because, of all the philosophies of antiquity, Epicureanism—the basis of Lucretius' poem—was the one with which Cicero had the least patience and which he least bothered to understand.

Our puzzlement in the matter is further increased by a reference to Lucretius in one of Cicero's letters; writing to his brother Quintus, he

remarks, "The poems [*sic*] of Lucretius are just as you describe them; they show many flashes of genius and yet evince considerable artistic skill." To Cicero, obviously, genius and skill are two quite separate things; genius would presumably create a compelling and intrinsically interesting body of ideas, while skill would shape these ideas artfully and neatly into an esthetically pleasing composition. Obviously a poet might have one or the other of these qualities, or have them in varying degrees; the thing that struck Cicero about Lucretius was that the veritable flood of ideas that he presents might easily have been more than ordinary poetic skill could handle, yet this poet had managed to handle them in an esthetically pleasing way.

As for the "editing" of the "books," the problem remains unsolved to this day. That Cicero had read *a* work by *a* Lucretius is patent; it is also probable that the work was the work of our Lucretius, and was in fact his poem *De Rerum Natura*. We know of no other Lucretius of the period whose "books" Cicero might have read and commented on in this manner, nor do we know of any other work that our Lucretius produced. We do not even know what Jerome meant by "editing" (*emendavit*). That Cicero should have made an annotated edition of the poem seems, on the face of it, quite unlikely; that he might have proofread the manuscript of the poem after the poet's death remains a possibility. The suggestion has been made that the "Cicero" referred to by Jerome was not the famous Marcus but his more obscure brother Quintus; this too remains a possibility, although it would be strange if Jerome, using the single name "Cicero," had meant his readers to think of anyone other than Marcus.

In sum, all of the questions raised by Jerome's account remain, and probably will continue to remain, unsettled. Fortunately for our comprehension and enjoyment of Lucretius's poem, neither Jerome's account nor any other can tell us anything of significance about the poem itself. Like all good poems, it is an independent, self-contained work of art, written for our instruction and delight by one of Rome's most original poetic geniuses.

II

The Philosophy of Epicurus (342–270 B.C.)

It must have been apostolic fervor that led Lucretius to choose Epicureanism as the subject for his poem; only an immeasurable enthusiasm and a profound conviction that in this philosophy lay the salvation of man could have led a poet to attempt to embody in verse so unlikely and intractable a subject. Epicureanism was a philosophy that brought peace and quiet rather than inspiration and exhilaration; based on a theory of the exclusive validity of sense perception and on an ethical doctrine that pleasure was the criterion of the good, it lent

itself not only to a dull and flat dialectic but also to gross misinterpretation. Although, in the Hellenistic period and later in the Roman, it was the second of the two great philosophies (the first was Stoicism), yet it trailed far behind its rival and gained relatively few adherents, these chiefly among poets, philosophers, and others of a contemplative rather than an active disposition.

Starting with the question "How do we get our knowledge?" Epicurus concludes that we get it through the senses; sensation, he declared, is the only reliable source of knowledge, and consequently the only source of truth. From this starting point, the philosophy proceeds with very nearly relentless logic to explain every phenomenon—and the correct word is "every"—of which the ancient world was aware. In every instance in which sensation gives us direct evidence, we are required to accept that evidence as truth; in instances in which sensation proves unable to give direct evidence, because our senses are too limited to encompass them, we are required to accept as valid only those theories that do not contradict such evidence as the senses can and do give us. And in declaring true every theory that does not contravene the evidence of the senses, Epicurus does not blink the fact that the philosopher may arrive at more than one explanation for a given phenomenon—in some cases, even at explanations that are mutually exclusive or contradictory. They must all be accepted as true. One of them must apply in this world of ours; it does not much matter which one. The others will find application in some other world out in the endless reaches of an infinitely varied universe. Nor did Epicurus shrink from the fact that our senses at times seem to give us false information; patently, we may misjudge the size or color or shape of a given object, especially if we should view it from a distance. But, says Epicurus, in these cases it is not the senses that are at fault. The data they transmit to the mind are correct; it is the mind that is in error, for it has misjudged the information correctly supplied to it by the senses.

Our senses show us a material world, and therefore we conclude that matter is the sole reality; all being is material being. Our senses also show us that matter moves, but nothing can move unless it has space in which to move. The second reality, therefore, that our senses demonstrate to us is the existence of empty space, or void. If our universe were completely full of matter, nothing could move, for everything that attempted to move would find its movement instantly stopped by some other thing. Movement is conceivable only if somewhere in the system there is empty space into which, so to speak, some bits of matter may be pushed aside to enable other bits of matter to move.

Granted the validity of this basic statement of the nature of being, that it includes two mutually exclusive opposites, matter and void, how are we to describe matter itself? The direct evidence of the senses

shows us an infinite variety of forms of matter, but also shows us that every one of these forms, however hard and durable it may appear to be, sooner or later suffers change and destruction. We conclude, therefore, that these sensible forms of matter cannot be ultimate or basic, for if they were, all being would long since have crumbled into nothing.

Here we must depart from the immediate evidence of the senses and resort to theory. What form must matter have if it is to account, not only for all the sensible forms, but also for their movement and their continuing existence? Epicurus found his answer to this question in the theories of Democritus (*c.* 460–*c.* 370 B.C.), who had declared that the basic form of matter was the atom, an indivisible, indestructible, uncreatable particle having no specific properties other than size, shape, and weight. Atoms are far too small in themselves to be apprehended by the senses, but they are the only form of matter that can adequately account for all the forms that the senses can apprehend.

Everything that we see can be adequately explained as an aggregate or combination of atoms, provided only that we posit two further things about them: first, that there are many different kinds of atoms, that is to say, they are not all of the same size or shape; and second, that they are infinite in number, for if they were not, they would long since have piled up in some corner of the universe, and our world would not be as we see it is. As a corollary, it must be asserted that the number of kinds of atoms is limited, for obviously, if it were not, some atoms would be big enough for the senses to apprehend, but we see that this is not the case. There is therefore a finite number of *kinds* of atoms, but of each kind there is an infinite number. No atom is large enough to be seen; conversely, no atom is so small as to have no dimensions at all. Of every size and shape of atom, from those with "least dimensions" to those lying just beyond the reach of the senses, there is an infinite number.

If the number of atoms is infinite, it follows that void, empty space, must be infinite in extent, for if space were finite, the infinite atoms would long since have filled it up.

The primary characteristic of the atom is that it is indivisible; this is, in fact, precisely what its Greek name *atomos* means. But if it is indivisible, it is also indestructible, for destruction is merely the logical extension of division. But if the atom cannot be destroyed, it follows that it also cannot be created, for it has no parts out of which it might be put together. From this it follows that time, like matter and void, is infinite; the universe, in all its aspects and ramifications, has always existed; there was no beginning, and there will be no end.

The persistent problem that had disturbed the atomists prior to Epicurus was that of the way in which atoms might join to create the things which our senses apprehend. It was not difficult to see how

various kinds of things could be built of various shapes and sizes of atoms, combined in different patterns and clinging together in those patterns until some force stronger than the bonds that held them together broke up the compounds and sent the individual atoms once more out into the void. The problem was to determine the mechanism by which in the first instance atoms came together to build things. That, once joined, they would cling together by inherent powers of cohesion was patent from the observable fact that such combinations do indeed exist. The problem was to determine how atoms came close enough together so that inherent cohesive forces might attract and bind them into stable, although not permanent, compounds.

Democritus had taught that the natural motion of the atom is "downward." But if all atoms move only in downward paths paralleling each other, how could they meet to form the compounds that make up sensible things? Epicurus' answer to this problem was perhaps his one great stroke of genius; he theorized that, at times not predictable and for no assignable reason, the atom must swerve from its downward path. But no sooner has it swerved than it strikes its neighbor atom and drives it also from its downward path; this strikes another, and another, and another, and so on, until the universe, instead of being a kind of "rainfall" of atoms, comes more closely to resemble an atomic whirlwind, with atoms striking against each other and clinging or springing back, moving now one way, now another, driven partly by their own weight, partly by the impulses given them by other atoms—a vast confusion, in which only the law of chance governs the formation of specific atomic compounds.

Thus, the inherent power of the atom to move by its own weight plus its equally inherent power to swerve from its normal path, plus its power to cling together with other atoms both like and unlike itself, plus the law of chance, can and do account, of and by themselves, without the intervention of any outside force or guiding intelligence, for every form of being that can be observed by one or another of our senses. The disciplined observation of the sensible world will reveal to us with accuracy and truth the nature of every pehnomenon that occurs or may occur anywhere in the universe.

What then of the being that we like to think of as nonmaterial, spiritual, and the like? What of that mysterious something we call the soul? To Epicurus, nonmaterial being and the spiritual were merely delusions; we only deceive ourselves if we imagine that there is any kind of being other than material. As for the soul, Epicurus cheerfully admitted its existence, but asserted that since it did exist, it must be material. It too is made up of atoms, infinitesimally small, delicate, and highly mobile, but atoms nonetheless. In other words, the soul is a *thing* like every other *thing*; it is contained within the body as within a vessel. It guides and directs the activities of the body and of itself; it

receives and interprets sense impressions and, in sum, is the one atomic compound that gives the power of life. Intimately connected with the body, as it must be if it is to carry out its various functions, delicate and tenuous, it cannot exist outside the body, and when the body dies, the soul of necessity dies with it.

Death dissolves the atomic compounds that make up the body, and disperses its component atoms; in like fashion death also dissolves the compound that is the soul, and its atoms too are dispersed in exactly similar fashion. The soul then is not immortal; its existence terminates with the termination of the body, and it does not live on in any form, either to enjoy eternal happiness or to face punishment for the sins of which it has been guilty during its connection with the body. Death is nonexistence, nothing, a total blank. Lucretius likes to compare it with the state of our "selves" before we were born: that is for us a total blank; so will it be for us after death. The atoms of body and soul, being indestructible, of course continue to exist, but the compound they had formed, which was "you" and "I," has been forever dissolved. To fear death, then, is foolish, since death is the final and complete annihilation of personal identity, the ultimate release from anxiety and pain.

To Epicurus, the physical system was only of secondary interest; far more interesting to him was the ethical system which was based on the physics. As with the physics, Epicurus begins his search for a valid ethical system by relying on observation. As we examine the behavior of all forms of living creatures, we observe that they seek out what is pleasant and avoid what is painful. Since this is natural, instinctive behavior, and does not require to be taught, it must be derived from the atomic nature of being itself; living creatures behave this way because their structure, in and of itself, compels them to do so.

From this theory Epicurus derived the principle that pleasure is the criterion of good, and pain of evil. Pleasure, moreover, is the natural and normal state of being, the product of properly balanced and integrated atomic structure; pain results from loss of balance and structural harmony. From this it is clear that pleasure is properly defined as the absence of pain and, as a negative and hence an absolute, admits of no degrees. Pleasure demands from us not so much positive as negative acts: we need only avoid pain; we do not have deliberately to seek out pleasure. The symbol of Epicurean pleasure is the "picnic," a group of relaxed, untroubled people, sitting on the soft grass in the shade of a tree near a running stream, enjoying the mere aspect of nature, and caring for their creature needs with the simplest of food and drink.

It should be noted, however, that Epicurus is entirely consistent in his doctrine of pleasure. *All* that is pleasant is good, and this includes the often suspect "pleasures of the flesh": food, drink, and sex. It was probably at this point that the ancient world, and particularly the

Roman, with its stern moral code, began to view Epicureanism with uneasiness and suspicion. To a people whose moral code demanded nothing so much as the control of the appetites, the doctrine that indulgence of those appetites was good sounded suspiciously like an invitation to loose living. They were wrong, of course, for they rarely troubled to follow Epicurus' argument to its end. If they had, they would have noticed that pleasure, being an absolute, will be destroyed if it is accompanied or followed by pain, even in the smallest degree. Pleasure, which is a good, is turned to evil on the instant that the pleasurable activity ceases to be such and becomes painful. Nothing is quite so susceptible of this error as the pleasures of the flesh; good in themselves, if they go beyond the proper limit, they invariably lead to pain, physical or psychological. While, then, they are not to be avoided, they are to be kept under the strictest of controls.

In point of fact, Epicurus thought it wiser to eschew physical pleasures, simply because they were so susceptible of passing over into the realm of pain, and thus of becoming evil. Searching for undeniably pleasurable activities not susceptible to such transmogrification, Epicurus concluded that the intellectual pleasures were to be preferred, and that the life was most likely to be pleasant, and therefore good, which kept all the appetites under strict control. The Epicureans, in fact, far from being the band of pleasure-seekers that both ancient and modern popular thought have made of them, were quietists, who preferred above all things to be allowed to withdraw into the life of study and companionship.

By the proponents of any such doctrine of pleasure and pain, of good and evil, the stress and strain of public activity, the life of the soldier and of the statesman, were bound to be viewed with distrust. While pleasure could be derived from these activities, there were scarcely any so susceptible of turning into pain. Disillusionment, thwarted ambition, treachery, the fickleness of popular favor—all these could turn the happy politician (if ever there were such) into a sick and embittered individual, full of guilt, rancor, and ill will. Epicurus recognized the necessity of government and its activities, and the need for participation in them on the part of loyal citizens; it was his recommendation, however, that this participation be kept to a minimum, and that wherever possible the Epicurean leave it to others and himself retire into the peace and quiet of his garden. In sum, Epicurus recommended as ideal the simple, not to say austere life, with the appetites disciplined to accept only that degree of carnal pleasure that would lead to the harmony and comfort of physical being; he encouraged his followers to withdraw from the dangerous confusion of public affairs into a life that resembles nothing so much as that of the monastery. It is scarcely strange that a world as given to flamboyant activity as the Roman should have found little to attract it

in the philosophy of Epicurus.

This is far from being the whole of the Epicurean philosophy, which was an immensely prolix system. Epicurus himself is said to have written three hundred volumes, and his followers countless more. His disciples studied the works of the Master as if they were a veritable Gospel; they memorized his "Golden Sayings" (*κύριαι δόξαι*) and devoted themselves almost exclusively to pondering and interpreting his endless treatises. Compared to Stoicism, with its grandiose concept of the Universal Soul, its seemingly noble doctrine of the primacy of virtue, its advocacy of public activity and the life of the statesman and soldier, and its doctrine of self-abnegation and self-control, the quietism and near-asceticism of the Epicureans seemed distinctly unappealing.

Furthermore, the system had serious weaknesses from the point of view of the "orthodox" Roman. Although it was not atheistic, it denied the power and influence of the gods on human life. If the world is the product of nothing but natural forces and natural law, divine intervention is impossible. Epicurus' gods did nothing but exist; if they had any function at all, it was simply to stand as symbols for the perfect peace of Epicurean life. Such a theology was unlikely to attract a people used to the sonorous prayers of priests at the altars of splendid temples, the magnificence of religious processions and ceremonies, and the habit, ingrained from childhood, of viewing the world as subject to the whims of unpredictable, often irresponsible and downright dangerous deities.

Another apparent weakness lay in the ethics itself. Epicurus appeared to have set up a purely mechanistic system, since all activity of every sort seemed to be the automatic result of a given type of atomic structure; a man behaved as he did because he was what he was, and not from choice. But if there were no choice, no free will, what was the sense of having an ethical system at all?

Once again, the critics of Epicurus failed to look far enough, for in spite of all appearances, his system was not mechanistic. Humanity, at any rate, does have free will, and in a most ingenious way Epicurus derived free will from the doctrine of the swerve of the atom, saying in effect that the power to make a deliberate choice of action was inherent in the atom itself, which demonstrated that power by unaccountably swerving from its "normal" path. People then do have free will; they could choose the pleasant as against the painful, the good as against the evil; of their own volition they could choose the path that would lead them to the good and happy life. The Epicureans were neither determinists nor atheists, although they were commonly accused of being both, but to the average ancient their theology was flat, stale, and unprofitable, and their doctrine of free will was too subtle for the Roman taste.

III

Lucretius and Epicurus

This, in very general terms, was the philosophy that Lucretius chose to embody in his poem *De Rerum Natura* ("The Nature of Things"); a strictly orthodox Epicurean, he does not deviate in any appreciable way from the teachings of the Master. Here and there, the emphases appear to be different; Lucretius makes much of the fear of death, in fact attributes most human ills to it. Epicurus laid far less stress on this human phenomenon and its consequences. Lucretius is violent and bitter in his hatred of religion—by which, of course, he meant the standard state cult of his day. He saw it as an ignorant, perverted, and vicious distortion of the world and of man's relation to it; in the end, it was only a source of fear and terror, and as such an evil thing. Epicurus himself took a more tolerant view of the standard cult, and even recommended that his followers go to the temples, say the prayers, and attend the religious ceremonies, not because of any practical benefit to be derived from such activity, but only because he thought it good to contemplate the perfect serenity of deity and to attempt to emulate it in his own life. Finally, Lucretius takes far greater interest, and expends far greater space, on an exposition of the physical system of Epicurus, and spends relatively little time on the ethics; with Epicurus himself, the opposite seems to have been true. In effect, to him, the physics was merely a base for the ethics; with Lucretius, the ethics appears to be scarcely more than an adjunct to the physics.

Lucretius begins his poem with an invocation to the goddess Venus, asking for her aid in the writing of the poem he is composing "for my friend, Memmius." He has often been taken to task by scholarly critics for invoking a goddess and asking for her help when patently, by the Epicurean system, she would have been utterly unable to help him even if she had wanted to. But if Milton, at the beginning of *Paradise Lost*, can invoke the Muse and ask for her aid "to my adventurous song," then Lucretius may be pardoned the impulse of poetic imagination that allowed him to see in Venus, as Milton saw in the Muse, an embodiment of poetic power.

Furthermore, Venus was for Lucretius a symbol. She stands for dynamic and creative nature and also represents the Epicurean ideal of peace, quiet, and contentment. As if to drive this point home, Lucretius opposes Venus to the god Mars, who represents discord, strife, and disharmony. In symbolic fashion, the poet prays that Mars may be overcome by Venus' beauty, and at least for the moment cease "the savage acts of war."

Following this comes Lucretius' tirade against religion, ending with his account of the ugly death of Iphigenia at Aulis; Agamemnon's

slaughter of his own child stands as a symbol of the evil that religion prompts. For true knowledge, humanity should turn away from the perversions and distortions of religion to the actuality of the world, its outer appearance and its inward laws.

The rest of Book I is devoted to the basic theory of the atoms. Three principles are enunciated: first, that matter cannot be created out of nothing; second, that matter cannot be destroyed or dissolved into nothing; and finally, that change is death. After this the poet attacks rival theories of the nature of being, disposing of each of them by showing that they all posit a "basic" substance that is not basic because it is subject to change.

Book II begins with a prologue on the blessings of philosophy and an appeal to humanity to free itself from blindness and to realize that only pleasure—that is, peace and harmony of mind and body—is good and worth seeking.

The largest part of the book is concerned with the atom and its nature, which are investigated in detail and explained in terms of Epicurean theory. Similarly, the void and the concept of time are explained in Epicurean terms. Certain necessary distinctions are made, such as the difference between a "property" and an "accident." The doctrine that sensation is the only source of knowledge and truth is reiterated again and again.

The universe knows no limitation of time or space, contains an infinite number of worlds, and as a total entity is never diminished or destroyed. Within it lie individual worlds, each an aggregation of atoms and void, and subject to constant change, whether of growth, diminution, or ultimate destruction. Our world, too, is a compound of atoms and void, limited in the number of atoms it may at any time possess. The atoms in it must be used over and over again; thus the death of one thing becomes necessary for the birth of another. Some few atoms flying in from outer space are added to earth's total; they impinge upon the earth and cling there. However, a far larger number is constantly escaping from the earth and flying out into the void; the net result of atomic activity in the earth is a loss.

Book III opens with praise of Epicurus and a description of the effects of the fear of death. After the prologue, the whole of the book is devoted to dispelling this fear, which to Lucretius is the source of virtually all human ills. Since the soul ceases to exist at death, after death it cannot possibly be subject to suffering in any form; fear of punishment after death is therefore needless and pointless. He shows that the soul is corporeal—that, like the body, it is composed of atoms which differ from those of the body chiefly in being much smaller, smoother, finer, and more mobile. It is divided into two parts; one diffused throughout the body, the other concentrated in the breast. The diffused part receives sense impressions and transmits them to the central mass in the breast, which interprets the nature of

the message and determines what the reaction of the individual will be. Lucretius understood that these sense impressions are tactile, caused by the impact upon the soul of material particles.

This soul, Lucretius says, can maintain its identity only so long as it is contained within its vessel, the body. When, at death, the bonds that hold the atoms of the body together are weakened, and the body-atoms begin to fall away from each other, countless channels are opened up through which the soul-atoms make their way out of the body and are dissipated into space. The ultimate result is total dissolution, i.e., death of both soul and body. There is no afterlife.

After a series of proofs of the mortality of the soul Lucretius urges humanity to accept the mortality of the soul as a fact and to realize with the poet himself that the only hell in all the universe is the one that fools create for themselves in this world.

Book IV is concerned with the operation of the mind, the nature of sensation, the mechanics of seeing, hearing, tasting, smelling, and touching. Lucretius shows that in every instance sense-perception is the result of the impact of atoms of the causative agent upon atoms of the mind, and demonstrates that in the end all sensation is a variation of touch, for only by touch (i.e., physical contact) can one material thing make an impact upon another. There is scarcely an imaginable aspect of the mechanics of sensation to which the poet does not turn his attention and for which he fails to find an atomic explanation.

Lucretius now turns to the far more difficult problem of thought. This too must be given an atomic explanation. Thought exists; therefore by Epicurean doctrine it must be atomic. Here he has recourse to the nature of the soul as he had described it in Book III; made of infinitesimally small, highly mobile atoms, it is susceptible of being directly touched and affected by fine films of atoms far too delicate to be apprehended by the coarser senses, and from their impact arise ideas, pictures, concepts, and even invention. For the soul has a latent power not only to receive and interpret impressions but to combine and even to alter them and thus to produce some previously nonexistent concept. Here again, the system gives proof of Epicurus' sagacity, for without this power of the mind to create new concepts (Latin *anticipatio*; Epicurus himself called it προλήψις —prolepsis, "the forward reach") his system would have had no room for invention or imagination, and humanity would have been left unable to think of anything that had not been thought of before.

These fine films of atoms also account for dreams and visions; in fact, when the mind is at rest and its guard down, so to speak, it is particularly receptive to these ever-present, ever-moving films of atoms. It is thus that we dream of weird, abnormal, impossibly ugly or impossibly beautiful things which, in our waking hours, the "guardian" of the mind would have refused entrance to conscious thought.

The subject of dreams leads Lucretius to think of one of their particular forms, the sexual dream, which causes the boy reaching puberty to ejaculate semen during sleep; he then goes on to discuss at length the whole phenomenon of sex and sexual behavior. The passage is brilliantly written and, considering the level of physiological and psychological knowledge of the poet's day, amazingly accurate.

Book V is concerned with our world—that is to say, with the earth, the sun, the moon, and the other visible celestial phenomena. Lucretius' astronomy must strike us now as fanciful and even amusing. His great lack here was mathematics. His disregard even of the mathematics of his own day—to say nothing of his ignorance of more modern mathematical developments—renders him incapable of understanding even so simple a phenomenon as perspective; and of the size and speed of movement of heavenly bodies he has conceptions scarcely less childish than those of his more orthodox contemporaries.

It is when Lucretius turns to the earth itself, and to a consideration of life in its many forms, that he comes closest to scientific truth. He sees correctly that all living creatures are composed of materials drawn from the earth. He theorizes accurately that plant life preceded animal life but makes the mistake of denying that life on land could have come out of the sea. As for the origin of living organisms themselves, Lucretius reasons back from the ancient theory of spontaneous generation; this he ties in with the endless combining, recombining, and decombining of the atoms in patterns dictated solely by the properties of the atom itself and by the laws of chance, and concludes that life must have begun when the "right" atoms, in the "right" combinations, happened by sheer chance to be present at the "right" time and under the "right" circumstances. These same laws of atomic behavior account for the immense variation in the kinds of life we observe on earth; these too have resulted from the chance combination of atoms in forms and at times and under conditions that favored their creation, arrival, and subsequent development. Man, for example, has developed from a great, shaggy, solitary wanderer in field and forest to the relatively delicate, refined, efficient, and well-organized man of the poet's own day. Lucretius also imagines a time when enormous animals might have wandered the earth, creatures far greater than any to be seen in his own day. It is doubtful that he ever saw the fossil bones of a dinosaur; if he had, he would have found in them only confirmation of his theories.

Lucretius next develops a theory of the rise of human institutions, which he explains always in terms of the properties of the atom itself or, in other words, "naturally." Imagining the conditions of life of the primitive man he had described, and with an understanding not frequently to be found in ancient literature, he thinks of the child, of the tender affection which the baby awakes in his parents, as the first

civilizing force. Next came family, then the tribe; further development changed the tribe into the nation, and tribal law into formal government.

From here on, the history of man follows rather closely the history of human governments as it was generally understood in antiquity. The first form of government was monarchy, to be succeeded by the rule of the wealthy, in turn followed by a government of law and magistrates. With government came law; with law, punishment; and, with punishment, the fear of punishment. From the fear of punishment by human agencies arose the fear of punishment by agencies greater than human, and from this phobia arose religion, the fear of the gods and of the punishments that they might inflict upon us.

In addition to these major aspects of human life, Lucretius takes up a long list of the institutions and discoveries of man, and shows how they came about through purely natural causes. Language, for example, arose because man had the organs of speech and found it convenient to use them as a means of communication. Man's knowledge of fire came about from forest fires set by lightning, or by the friction of one branch of a tree against another during a windstorm. Everything else—metallurgy, the taming and training of domestic animals, weaving, agriculture, music, and the dance—men learned by natural processes. All these discoveries were made simply because man and the world are what they are, and not by any special creation or dispensation.

Book VI is a kind of catch-all, and has the manifest defects of any such miscellany. Lucretius takes up various phenomena, such as thunder, magnetism, earthquakes, and waterspouts, and explains each of these on an atomic basis. In a good many instances his explanations seem labored and unnecessarily elaborate; it may be that final revision would have simplified a good deal of this part of the poem. It may be too that these elaborate disquisitions were intended to meet possible objections from opponents of Epicureanism, and to give its proponents as many possible explanaitons as the poet could think of, so that if one were refuted, they might have recourse to another.

The long series of miscellaneous phenomena leads Lucretius in the end to a theory of disease, which he attributes, as the ancient world in general did, to the influence of air masses. In this respect, Lucretius is not too far ahead of his contemporaries. He concludes his account with a description of the great plague at Athens (430–429 B.C.) borrowed whole-cloth from Thucydides (2.47–52) and of interest chiefly for the ingeniousness with which Lucretius Latinizes the Greek historian's brilliant account. Book VI comes to an abrupt end; the poem simply stops, and in so doing tends to substantiate the argument that the work is unfinished.

A Note on This Translation

As in my translation of Vergil's *Aeneid* (Bobbs-Merrill, 1975) I have attempted to create a line-for-line version of Lucretius' poem since any translation that varies from the line-for-line plan is bound to destroy all semblance of the architecture of the original.

For the meter, again as with the *Aeneid*, I chose a somewhat loosened form of the English iambic pentameter, as the only form of English verse that adequately represents the dignity of movement and disciplined variation of the Latin hexameter. The problem of getting six Latin feet into five English feet remained a vexing one, and again as in the case of the *Aeneid*, at times resulted in the loss of words or ideas. But I attempted as before to restrict such losses to relatively unimportant elements. The text, except as indicated in the notes, is that of Cyril Bailey (Oxford Classical Texts, 1962).

THIS GREAT POEM STANDS WITH VIRGIL'S *AENEID* as one of the vital and enduring achievements of Latin literature. Silenced for more than a thousand years, its return to circulation in 1417 reintroduced dangerous ideas about the nature and meaning of existence and helped shape the modern world. Based on the tenets of Epicurean philosophy, *On the Nature of Things* asserts that matter is composed of an infinite number of small particles; that even the soul, like the body, is made up of these atoms and dissolves painlessly after death; that there is no afterlife and therefore no cause for fear; and that the universe operates without the aid or attention of gods. Rendered into a somewhat "loosened" form of iambic pentameter by Frank O. Copley, this edition includes an introduction and notes that guide us through the philosophical and historical background of this groundbreaking poem.

FRANK O. COPLEY was a professor emeritus of Latin at the University of Michigan. Among his many publications are *Catallus: The Complete Poetry*; *Plautus: Menaechmi, Mostellaria, Rudens*; and *Vergil: The Aeneid.*

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