## Book I

Mother of Romans, joy of gods and men, Venus,<sup>1</sup> life-giver, who under planet and star visits the ship-clad sea, the grain-clothed land always, for through you all that's born and breathes is gotten, created, brought forth to see the sun, 5 Lady, the storms and clouds of heaven shun you, You and your advent; Earth, sweet magic-maker, sends up her flowers for you, broad Ocean smiles, and peace glows in the light that fills the sky. For soon as the year has bared her springtime face, 10 and bars are down for the breeze of growth and birth. in heaven the birds first mark your passage, Lady, and you; your power pulses in their hearts. Then wild beasts, too, leap over rich, lush lands and swim swift streams; so prisoned by your charms 15 they follow lustily where you lead them on. Last, over sea and hill and greedy river, through leaf-clad homes of birds, through fresh green fields, in every creature you sink love's tingling dart, luring them lustily to create their kind. 20 Since you, and you only, rule the world of nature, and nothing, without you, comes forth to the coasts of holy light, or makes for joy and love, I pray you be with me as I write these verses that I compose about the world of nature 25 for my friend Memmius,<sup>2</sup> whom, in every hour, Lady, you wish in all things blessed and great. Grant then to my words, Lady, a deathless charm. Cause meanwhile that all savage works of war by land and sea drop off to sleep and rest. 30 For you alone can bless our mortal race with peace and calm: though Mars<sup>3</sup> the War Lord rules war's savage works, yet often he throws himself into your arms, faint with love's deathless wound, and there, with arching neck bent back, looks up 35 and sighs, and feeds a lustful eye on you and, pillowed, dangles his life's breath from your lips. Then, as he falls back on your sacred body,

1. The goddess is a poetic symbol, representing creative nature; she also stands for the Epicurean ideal of peace, order, and harmony. 2. Gaius Memmius, praetor, 58 B.C., governor of Bithynia, 57 B.C.; the lyric poet Catullus

was a member of his staff. Lucretius loved him; Catullus hated him.

3. The war god, symbol of discord, of the destructive forces in nature, as opposed to Venus, symbol of creation, order, and peace.

#### 2 • The Nature of Things

Lady, lean over and let sweet utterance pour from your holy lips—a plea of peace for Rome. For in my country's hour of trial I cannot sit calmly writing, nor can Lord Memmius in such a season fail the common weal.<sup>4</sup>

Now turn attentive ears and thoughtful mind, by trouble undistraught, to truth and reason; my gifts displayed for you in loyal love you must not scorn before you grasp their meaning. For I shall tell you of the highest law of heaven and god, and show you basic substance, whence nature creates all things and gives them growth, and whither again dissolves them at their death. "Matter," I call it, and "creative bodies," and "seeds of things"—such terms I'll often use in my discourse, and sometimes call the same "prime bodies," for with them everything beings.<sup>5</sup>

When human life lay foul before men's eyes, crushed to the dust beneath religion's weight (from the high realm of heaven she showed her face in hideous grimace of terror to mortal men) a man of Greece<sup>6</sup> first dared to raise the eve of mortal against her, first stood ground against her. Not all god's glory, his lightning, heaven's rumble and rage, could stop him; rather they rasped his heart to keener courage, and made him a pioneer eager to burst the bolts on nature's door. His quick and cunning intellect won him paths to freedom beyond the world's far-flaming walls; in mind and thought he marched the boundless Whole and then, victorious, taught us what can be and what cannot: ves. and what law defines the power of things, what firm-set boundary stone. And now religion in turn beneath our feet is trampled; the victory makes us match for heaven.

This troubles me: that you may think yourself beginning to study blasphemy—"that first step to a life of crime." Why, no! More commonly

4. Editors commonly indicate the loss of an unknown number of lines here.

Perhaps he was determined to exclude as many non-Latin words as he could, in spite of the difficulties this posed for him: cf. 1.136-145. In my translation I have not hesitated to use the word "atom" whenever this seemed conducive to clarity.

6. Epicurus. See Introduction, p. ix ff.

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<sup>5.</sup> Here Lucretius invents a number of Latin synonyms for the Greek *atomos* ("atom"). Why he did not simply transliterate the Greek word is hard to see; his readers certainly knew Greek, and would have had no trouble with the word.

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religion has prompted vile and vicious acts. Remember Aulis?<sup>7</sup> How Diana's altar was shamed and fouled by Iphianassa's blood spilled by the Lords of Greece-great heroes, they! They coiffed the poor girl for her wedding day: a ribbon, long braids to hang each side of her face. But there by the altar she saw her father standing grief-stricken, and near him acolytes hiding knives. and people staring at her with tear-stained faces. Voiceless with terror she crumpled to her knees. Poor thing, no help to her in such an hour that she'd been first to call the king "my father." Men led her to the altar, raised her up all trembling, not to say their sacred office and carry her home with nuptial shout and song, but that her innocence at the bridal hour fall criminal victim by a father's blow. that ships might have clear sailing and fair winds. So much of evil could religion prompt.

And you, at any moment now, in fear of hierophantic threats, will seek to leave me. For think of the endless fantasies your priests devise, that can subvert all reasoned thought and turn your life to terror and confusion! Of course! For if men saw that all their troubles must one day end, somehow they'd find the strength to stand against the hierophant and his threats. But now they can't stand ground nor make reply for fear of eternal torment after death. They do not know the nature of the soulif it is born or at birth slipped into us; whether, destroyed by death, it dies with us, or goes to see hell's broad and lightless pools, or by some miracle passes to other creatures. as our loved Ennius<sup>8</sup> sang, who first brought down from lovely Helicon garlands ever green to grow in fame wherever Italians live. Yet Ennius also claimed the underworld exists, and told his tale in deathless verse, a place where neither soul nor flesh lives on but a sort of "images"-pale and eerie things.

7. Agamemnon, commander-in-chief of the Greek expedition against Troy, was ordered by an oracle to sacrifice his daughter, Iphigenia (here called "Iphianasa"), to the goddess Diana (Artemis) at her temple at Aulis, in Boeotia, in order that a favorable wind might enable the Greeks to sail for Troy. The story is told by Euripides in his play *Iphigenia at Aulis*. 8. Lived 239–169 B.C., the "father of Latin poetry." He wrote an epic, the *Annals*, now extant only in fragments. From there the likeness of Homer<sup>9</sup> the Ever-young appeared to him (he says), and shedding floods of salty tears brought word of the world of nature. And so we must think with accuracy and care about the world above—of sun and moon and how they move, how everything on earth takes place; but first with all our reasoning power we must inspect the nature of soul and mind, and things that come to fill our hearts with fear when we lie ill and awake, or tombed in sleep, making us think we see and hear right there men who have died, whose bones the earth embraces.

And well do I know Greek science is obscure and difficult to explain in Latin verse, above all when I must work with coined words where Latin is lacking and the concept new. But your great goodness and the hoped-for joy of your sweet friendship bid me bear all toil, and keep me awake at work through cloudless nights seeking not only words but verses, too, to be bright shining lights before your mind, that you may see deep into hidden truth.

This fright, this night of the mind, must be dispelled not by the rays of the sun, nor day's bright spears, but by the face of nature and her laws. And this is her first, from which we take our start: nothing was ever by miracle made from nothing.<sup>1</sup> You see, all mortal men are gripped by fear because they see so many things on earth and in the sky, yet can't discern their causes and hence believe that they are acts of god. But in all this, when we have learned that nothing can come from nothing, then we shall see straight through to what we seek: whence each thing is created and in what manner made, without god's help.

If things were made from nothing, then all kinds could spring from any source: they'd need no seed. Man could have burst from ocean, from dry land the bearers of scales,<sup>2</sup> and from thin air the birds; cows, horses, sheep, and the rest, and all wild beasts

9. The poet of the *Iliad* and Odyssey. Ennius once claimed to be "Homer reborn."

1. This is the first of the basic principles on which the Epicurean system rests. All Being is material, and is created only out of matter, it cannot be created out of nothing. Its creation is brought about solely by natural law. There is no such thing as divine intervention or miracle. The logical argument is this: if anything could be created out of nothing, then anything could be created out of anything, and birth and growth would be quite random. But this, we see, is not the case.

2. I.e., fish. For some odd reason, Lucretius tries to avoid the word for "fish" (*piscis*), substituting one or another cuphuism for it, e.g., "scaly shiners" (1.372).

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would breed untrue, infesting farm and forest. Nor would one tree produce one kind of fruit; 165 no, they would change, and all could bear all kinds. For if there were no factors governing birth, how could we tell who anyone's mother was? But things are formed, now, from specific seeds, hence each at birth comes to the coasts of light 170 from a thing possessed of its essential atoms. Thus everything cannot spring from anything, for things are unique: their traits are theirs alone. And why in spring do we see roses, grain in summer, vines produce at autumn's call, 175 if not because right atoms in right season have streamed together to build each thing we see, while weather favors and life-giving earth brings delicate seedlings safe to land and light? But if they came from nothing, they'd spring up 180 all helter-skelter in seasons not their own; for there would be no atoms to be kept from fertile union at untimely hours. Nor would things when they grow have need of time for seeds to combine, if they could grow from nothing. 185 Why! Babes in arms would turn into men forthwith, and forests would leap from sprouts new-sprung of earth. Yet clearly such things never occur: all growth is gradual, regular, from specific seed, and with identity kept. Hence learn that things 190 can grow only when proper substance feeds them. To this we add: without her seasonal rains Earth could not send up offspring rich in joy, nor, further, could living creatures without food beget their kind or keep their hold on life. 195 Better conceive of many atoms shared by many things, as letters are by words, than of a single thing not made of atoms. To continue: why could nature not produce men of such size that they could cross the seas 200 on foot, and with bare hands pull hills apart, and live the lifetime of ten thousand men, if not because each thing has but one substance marked and designed to bring it into being? Admit then: nothing can be made of nothing 205 since things that are created must have seed from which to come forth to the gentle breezes. Finally, since we see tilled fields excel untilled, and pay more profit on our toil

surely prime bodies must exist in soil. Plowing the fertile furrow, turning up the earth, we bring these bodies to the surface. But if there were none such, everything would grow spontaneously, and better, without our labors. And now add this: nature breaks up all things into their atoms; no thing dies off to nothing.<sup>3</sup> For if a thing were mortal in all its parts. it would be whisked away, just drop from sight, since there would be no need of force to wrench one part from another, or to dissolve their bonds. But things are made of atoms; they are stable. Until some force comes, hits them hard, and splits them, or seeps to their inner parts and makes them burst. nature brings no destruction to our sight. Besides, take things that time removes through aging: if when they died their matter were all consumed, whence does Venus bring animals forth to life kind after kind, and earth, the magic-maker, nourish, increase, and feed them, kind by kind? Whence could native fountains and far-flung rivers supply the sea? Whence ether<sup>4</sup> feed the stars? For everything of mortal mass long since had been used up as boundless time passed by. But if the stuff of which this sum of things is built has lasted down through empty ages. surely it is endowed with deathless nature; no thing, therefore, can be reduced to nothing.

Lastly, one given cause could commonly destroy all things, if they were not held firm by deathless matter, bonded and intertwined. For death's mere touch would be sufficient cause for things not built of everlasting atoms whose fabric must be broken up by force. But now, because the bonds between the atoms are ever unlike, and matter is eternal, things will retain their form and mass intact until they meet a force to match their fabric. And so no thing reverts to nothing: all are sundered into particles of matter. Finally, rains are lost when Father Heaven has dropped them into the lap of Mother Earth.

3. The second basic principle of Epicureanism: as nothing can be created from nothing, so nothing can be reduced to nothing the atoms out of which all Being is constituted are indestructible.

4. Often identified with fire, it is the lightest form of matter, and is thought of as surrounding our world like a roughly spherical envelope.

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Book I • 7

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But shining grainfields sprout, and twigs grow green on trees; the trees grow, too, and bear their fruits; hence our kind and the animal kind are fed, hence we see happy cities bloom with children and leafy woods all filled with young bird-song; hence flocks wearied with fat lay themselves down out in the fertile fields, and bright white liquor leaks from their swollen teats; hence newborn lambs gambol on wobbly legs through tender grass, their baby hearts tipsy with winy milk. Things seem to perish, then, but they do not: nature builds one from another, and lets no thing be born unless another helps by dying.<sup>5</sup>

Come, now: I've shown that things cannot be made 265 from nothing nor, once made, be brought to nothing. Still, lest you happen to mistrust my words because the eye cannot perceive prime bodies, hear now of particles you must admit exist in the world and yet cannot be seen. 270 To begin: the whistling wind whips up the sea, makes great ships founder, and whisks off the clouds: again, wheeling and funneling over the fields it strews them with giant boles, and with its blasts tree-cracking, tears at the hilltops-raging, screaming, 275 howling its threats, the savage tempest roars. There are, then, unseen particles of wind that sweep the sea, the land, yes, and the clouds of heaven, tearing and whipping and whirling them off. They flow and spread disaster in no way 280 other than water, when that gentle flow rises in flash flood, fed by cloudbursts high in the mountains: down the walls of water race. tossing debris of forests and whole plantations; strong bridges cannot brook the sudden crush 285 of rushing water: muddy, swollen with rain, the stream runs at their piers with massive power. It roars and wrecks, and rolls beneath its waves huge blocks of stone-whatever dams its path.<sup>6</sup> So too the blasts of wind must form and move: 290 when like a powerful flash flood they sweep down, wherever they turn they tumble and topple the world with drumbeat blows; again, with a twist and whirl

5. Throughout Lucretius' poem, it is important to keep in mind the distinction he draws—not always too clearly—between our world and the universe (the "sum of things"). The former is a "thing" consisting of a strictly limited number of atoms and, like all other

"things," subject to ultimate dissolution. The latter is infinite in extent and contains an infinite number of atoms; it can never be destroyed. 6. This is my interpretation of a doubtful piece of Latin.

and a spinning funnel they suck things up and away. Yes, there are unseen particles of wind. 205 since in their acts and ways they are discerned to rival rivers, whose substance can be seen. Now to go on: we sense earth's many odors vet never see them coming toward the nose: we cannot see the heat, nor with the eve 300 capture the cold, nor see the sounds of speech; vet these must all consist of particles of matter, for they make impact on our senses. and nothing can touch or be touched other than matter.<sup>7</sup> To continue, clothing hung where breakers crash 305 grows damp, then dries when spread out in the sun. And yet, how water-moisture settled there. cannot be seen, nor how heat drove it off. Into small parts, then, water is dispersed, parts that the eve in no way can perceive. 310 Still more: as years and years of sun roll round. the inner side of a ring is thinned by wearing; water-drip hollows rock, the iron plow grows imperceptibly smaller in the field, and paving stones we see worn down by feet 315 of people passing: then, near city-gates, bronze statues show their right hands worn away by touch of the many who greet them and pass by. Once they're worn down, we see these things are smaller, but how many particles leave at given times. 320 a niggard nature has blocked our power to see. Finally, keenest eye cannot detect the gradual additions made by nature and time to things, to keep the rule of growth, nor see how years make them grow old and weak: 325 seaside cliffs are eaten away by brine, vet one cannot see each moment what is lost. Invisible particles, then, do nature's work. Yet still the whole world is not gripped and packed solid with matter for there is void<sup>8</sup> in things. 330 Know this, for it will help in many ways, and will not let you waver, doubt, and question the law of nature, and mistrust my words. Thus there is void, intactile, empty space: If there were not, then there would be no way 335 for things to move. It is the part of matter

7. This principle, like those enunciated in 150 and 215-16, is basic to Epicurean thought all sensation is caused by physical impact of one body on another. 8. This is empty space, a postulate without which, Lucretius says, it is impossible to explain movement.

to block and stop, and this would always happen to everything; nothing then could move ahead. since nothing would ever let anything start to move. But now on sea and land and in high heaven before our eves we see things moving, here, there, everywhere, but if there were no void, they'd not so much be lacking speed and movement as never, in reason, have come to be at all in a world of matter tight-packed and motionless. Further, though we may think that things are solid, here are signs that their atoms are widely spaced: in caves and caverns water trickles through clear-flowing; tear-like drops hang everywhere. The food of animals spreads throughout their bodies. Trees grow and in due season drop their fruits because food flows all through them, from their roots up through their trunks and out through every branch. Words pass through walls and slip past lock and key. and numbing cold seeps to our very bones. This you would not see happen, were there not spaces through which bodies like these might pass. To continue, why do we see one thing surpass another in weight, though of no larger size? For if in a ball of wool there were as much matter as in lead they would weigh the same, since it's the function of matter to push things down, and void must be, by contrast, without weight. Thus what is just as large but has less weight, declares, you see, that it has more of void; by contrast, the heavier tells us it has more matter within it, and much less empty space. Thus, what we've sought, you see, to trace by sense and reason, is mixed in things: we call it "void."

Now here is something that may lead you off from truth, and this I must anticipate. Men say that water yields to scaly shiners and opens paths for them, because the fish leave space behind, where waves may flow together; other things, too, thus move reciprocally and exchange places, though all the world is full. But see: this whole idea is falsely reasoned. For where could our fish move to, after all, if water did not make room? And where could waves move to, then, since fishes could not stir? Hence we must either deprive all matter of motion or say that there is void mixed into things, 340

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through which they singly make their start toward movement. Finally, if from contact two flat plates leap quickly apart, surely the air must fill 385 the entire void created between those plates. Further, no matter how fast the streams of air should flow, the total space could not be filled at once: the air would occupy the void by steps, successively, till the whole was filled. 390 But if, when plates have leaped apart, someone should think this happens when air is self-compressed. he's wrong, for this makes void what was not void. and makes fullness of what was void before. Now air cannot compress itself this way-395 or, if it could, not without void, I think, could it pull itself in and draw its parts together.9 Therefore, despite your hesitance and evasions, you must admit that there is void in things. And I can give you proof on top of proof 400 to bolster up your faith in what I say. But, for a man of intellect, these small signs suffice: through them you'll learn the rest yourself. For as hill-wandering hounds time after time sniff out the wild beast's lair. though roofed with leaves, 405 once they have caught the clear scent of his trail, so you yourself, in things like these, will spy one thing from another and will work your way into dark coverts and drag out the truth. But if you are lazy or a bit reluctant, 410 this promise I can make you, Memmius, flatly: so vast are the founts, so generous the drafts that honeyed speech will pour from my heart's hoard, I fear that old age sooner may creep in to cripple our limbs and loose our hold on life 415 before, on just one point, my verse can bring

the whole array of argument to your ears.

But now to resume the weaving of my words: Nature—unqualified Being—has two forms that make it up: the atoms, and the void where atoms are placed and travel their varied paths. That matter exists, we learn, as do all men,

9. The point of this somewhat tortured argument seems to be this: air is made up of atoms, but atoms cannot "compress" into each other (392, 395–97); when the two plates are pulled apart, they create void between them (393), and it is into this void that the atoms of air move, bit by bit, as the plates are pulled farther and farther apart (384–90.) Concomitantly, as the plates move apart, they push the atoms of air outside them into the empty spaces ("void") that lie between the atoms of air, thus compressing the air into a "fullness" (394) that was not there before. The point is that compression and rarefaction are forms of movement, and no movement is possible in the absence of empty space, "void."

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by the senses: these we trust, first, last, and always; else we shall have no point of reference for reasoned proof of the nature of things unseen.<sup>1</sup> And then, for "place" and "space," which we call "void": without it, atoms would have nowhere to be, nor anywhere to pursue their varied paths; this I've already shown you, just above. Furthermore, there is nothing one could call discrete from matter and distinct from void. something revealed as a third form of Being. No matter what it will be, it must be something; if it has touch, however unsubstantial, then it will add its increase, great or small, to the ranks of matter, and join Totality; but if intactile, helpless at any point to prevent the movement of a body through it. then it will be the thing that we call "void." Further, whatever exists must either act or be acted upon by other things in action. or else have things located or done within it. But: nothing can act or be acted on but matter, and (further) nothing make room but empty void. And so, except for matter and void, no third nature remains within the class of Being. nothing ever subject to sense perception. nothing the reasoning mind could ever grasp.

Name anything else: you'll find it a property joined to these two, or else an accident of them. A property is what never can be cut off and sundered: its disjuncture spells destruction, as weight to stone, to fire, heat, as liquid to water, touch to matter, non-touch to void. Contrariwise, slavery, wealth, and poverty, liberty, war, and peace, and all the rest which, present or absent, make no change in essence these we correctly designate accidents. Time doesn't exist as such,<sup>2</sup> but from events our senses gather what happened in the past, what things are with us, and what are going to be. No man may assert he senses time as such, discrete from things in motion and things at rest.

 Another important basic principle of Epicureanism: sense perception is true, and only by sense perception do we learn truth. As all Being is material—i.e., atomic,—so all knowledge is gained by physical contact with the material—i.e., by sense perception. Cf. 302-4 and note. Z. Time is not a thing, but only a relation between things. Events in time are not things, either; they are not material ("atomic"), therefore they have no existence of their own. They are accidents of the places where they occurred, and we learn of them by learning of those places.

# Book II

It's sweet, when winds blow wild on open seas, to watch from land your neighbor's vast travail, not that men's miseries bring us dear delight but that to see what ills we're spared is sweet; sweet, too, to watch the cruel contest of war ranging the field when you need share no danger. But nothing is sweeter than to dwell in peace high in the well-walled temples of the wise, whence looking down we may see other men wavering, wandering, seeking a way of life, with wit against wit, line against noble line, contending, striving, straining night and day, to rise to the top of the heap, High Lord of Things. O wretched minds of men, O poor blind hearts! How great the perils, how dark the night of life where our brief hour is spent! Oh, not to see that nature demands no favor but that pain be sundered from the flesh, that in the mind be a sense of joy, unmixed with care and fear!

Now for our physical life, we see that little so little!—is needed to remove our pain. For Nature does not ask that vast delights of a more tickling kind be spread before us, even if through the house there are no statues of golden boys with flaming lamps in hand to furnish light for banquets all night long, and there's no silver to glitter nor gold to gleam, no lyre to echo from coffered, gilded ceiling. Why! Men can lie on soft turf side by side under a tall tree's branches near a stream, and easily, pleasantly, care for creature needs especially when the sun shines, and the year in season sprinkles the fresh green grass with flowers.<sup>1</sup>

Nor do hot fevers leave our flesh the sooner if we lie tossing on crocheted quilts and sheets of purple, than if our bed is shabby stuff. And so, since wealth's no profit to the flesh

1. This passage embodies a central Epicurean doctrine—that pleasure, which is the only true criterion of the Good, is an absolute, admitting of no degrees. It is, in fact, a negative, consisting of the absence of pain. In its crudest form, it is "the pain you don't have": cf. 2. 1–13. See

Introduction, p. xiv. Mark Twain phrased it less elegantly but just as forcibly: "We all like to see people in trouble, if it doesn't cost us anything." (Following the Equator, Chap. XLVIII).

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whatever, nor noble blood, nor royal power, it follows that they can't benefit the soul, unless on seeing your legions in the field at charge and countercharge of wild war games, backed by cavalry staunchly massed. . . .<sup>2</sup> full-armed alike with weapons and with courage . . . you see your far-flung fleet come boiling in. then your religion terrified by these sights flees fluttering from your soul, and fears of death then leave your heart released and free of care. But if we see that this is foolishness, that in fact men's fears and cares are always with them, and fear no rattling sabres or savage spears but live quite boldly with the lords of earth and kings, all unabashed by gleaming gold and the splendor of a gorgeous purple robe, why doubt that only reason can help us here, above all, since man's life labors in darkness. For as in the dead of night children are prev to hosts of terrors, so we sometimes by day are fearful of things that should no more concern us than bogeys that frighten children in the dark. This fright, this night of the mind must be dispelled, not by the rays of the sun, nor day's bright spears, but by the face of nature and her laws.

Now, by what movements do creative bodies produce things, and destroy them, once produced? What force drives them to do this? Whence derived their power of moving freely through the void? I shall explain; attend, and hear my words. Now surely matter is not all packed together in permanent form, for we see things grow smaller, and everything melt, so to speak, as years go by. The old and worn slip from our sight away, and yet the Sum, it seems, stays undiminished. Why? Because atoms, departing, make one thing smaller but render the thing they come to larger; they make the one grow grey, the other bloom and then move on. Thus is the world renewed always, and mortal things trade life for life. One nation grows, another wastes away; the ranks of the living change in one brief hour; like racers, they hand along the torch of life.

If atoms, you think, can cease to move, and ceasing can then set matter to moving in new ways,

2. The last part of this line, and perhaps three additional lines, have been lost here.

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you've wandered away from truth, far from the road. For atoms, since they wander the void, must all be driven along either by their own weight or perhaps by striking another. They often meet, 85 colliding at high speed and then at once spring wide apart. No wonder! They're very hard, heavy and solid, with nothing behind to block them. All atoms of matter are constantly in motion. To see this better, remember: in the All 00 and Sum, there is no bottom where prime bodies may come to rest, since space is limitless, stretching unmeasured toward all points alike; this I've repeatedly shown and proved by logic. Since this is true, nowhere in all the void 95 have our prime bodies a resting place assigned; rather, they dash on, onward, this way, that way, sometimes to dart in safety, far apart, some at close quarters to meet, clash, and collide.<sup>3</sup> All those that meet and mass in closer context 100 dart in and away on brief trajectories. entrapped within their own complex formations: these form tough-rooted rock and particles of savage steel and other things like these. The rest, some few that roam the boundless void, 105 leap far, far out, and from far out race back in long trajectories; these build thin air, all that we need, and sunlight, clear and bright. And many besides that roam the boundless void have been cast off from compounds but could find 110 no others to join in partnership of movement. I'll show that this phenomenon always has a pattern and image that stands before our eyes. For watch whenever the bright rays of the sun pour shafts of light into a darkened house: 115 you'll see a thousand motes a thousand ways commingling in those very shafts of light, engaged in battle and blow as if in strife eternal, host against host, without a pause, uniting, dividing, swiftly, again and again; 120 from this you may conjecture of what sort is the endless movement of atoms in the void. To such extent can small things show the likeness of larger and the steps that lead to knowledge.

 Atomic motion. According to Epicurean theory, the atoms are always in motion, never at rest, even when they are enclosed within compounds which to our senses appear to be solid and stationary. The sources of atomic motion are twofold: (1) their own weight, and (2) impulse from other atoms. See Introduction, p. xii. So much the more should you observe these motes that are seen swirling about in rays of sunlight because their swirl reveals that, all unseen. under the surface, atoms are on the move. You'll see many motes propelled by unseen forces, changing direction, turning, bounding back, whirling now here, now there, now everywhere. And this, you know, is how all atoms move: To begin, prime bodies are of themselves in motion; next, those that gather together in little groups and are, so to speak, just above atoms in size, are further propelled by blind atomic blows. then they themselves strike those of larger size. Thus movement ascends from atoms bit by bit to the level of our senses, till the motes we see in sunlight, too, are set in motion, yet by what blows they do this is not clear.

Now what velocity is assigned to atoms. Memmius, you may learn in brief from this: when dawn first sprinkles the earth with fresh, new light, and bright-colored birds fly through the pathless woods and morning air, filling the world with song, we see how quickly the sun, just rising then, colors and curtains the whole world with its light. for this is clear and manifest to all men. But the heat and clear, pure light the sun emits pass through no empty void: they are slowed down, as they must be, whipping their way through waves of air. Besides, the atoms of heat do not move singly but interwoven and closely intertwined, at once impeding themselves and being blocked from without: this makes them move more slowly still. But atoms are of solid, single substance; they pass through empty void, and are slowed down by nothing external; singly, all parts together, they travel to that one place toward which they started. Therefore they must have greatest velocity and travel at higher speed than does the sunlight, racing through far more space in no more time than sunlight takes to flash across the sky.4

4. The speed of atomic motion must be greater than that of light, for light being itself atomic in nature, must make its way through and past other atomic substances, whereas atoms move through void, empty space, and hence are not retarded in any way. After line 164, an unknown number of lines have been lost. The content of the lost lines cannot be satisfactorily conjectured.

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nor do they follow the single atoms through that they may see the cause of each event.

Some people, again, in ignorance of matter, believe that nature, unhelped by godlike power, could not, so consonant to the needs of man, have ordered the seasons and created fruits and other things toward which we men are urged and escorted by holy pleasure, life's true guide (and teased through sex to reproduce our kind, lest man die out). When, on these grounds, men fancy that gods began it all, in all respects they've slipped far off, I think, from truth and reason. For though I were ignorant of the basic stuff, still, just from heaven's behavior, I would dare affirm, and assert on many other grounds, that gods most certainly never made the world for you and me: it stands too full of flaws. This, Memmius, I shall soon make clear to you. Right now, I'll finish my theory of motion.

Now here is the place, I think, in my account, to state this fact: by its own power, no form of matter can travel upward, or move up; and don't let bodies of fire deceive you here, because they start and grow with upward movement, and gleaming grain grows up, and so do trees, yet weight itself will always travel downward. We must not think, when fires leap toward the roof with flame that hurries to taste of board and beam, they do this by themselves, pushed by no force. It's just like blood that from our body pours pulsing and bubbling up and splashing red. See too with what force water tosses back our boards and beams. The deeper we press them down and push on them in a body, and heave and strain, the more it blithely throws them up and sends them leaping in air, well over half their length. Yet we don't doubt, I'm sure, that of themselves these things all travel downward through the void. So too must flames by force of pressure rise up through the moving atmosphere, although their weight, of itself, would struggle to draw them down. Don't you observe how torches flying high in heaven by night draw trains of flame behind them toward any quarter where nature shows a path? Haven't you noticed that meteors fall toward earth? Yes, and the sun from heaven's height throws heat

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in all directions, sowing the land with light; the heat of the sun, then, also veers toward earth. You'll note that lightning flashes athwart the rain: bolts burst from clouds, now here, now there, and race to meet in a flaming mass, then fall to earth.

Here too is a point I'm eager to have you learn. Though atoms fall straight downward through the void by their own weight, yet at uncertain times and at uncertain points, they swerve a bitenough that one may say they changed direction.<sup>5</sup> 220 And if they did not swerve, they all would fall downward like raindrops through the boundless void; no clashes would occur, no blows befall the atoms: nature would never have made a thing.<sup>6</sup> If someone thinks that heavier atoms fall 225 straight through the void, but faster, and can drop from above on lighter ones, and so give rise to blows that could produce creative movement, he's drawn away from truth, far from the road. For things that fall through water and thin air 230 must speed their fall according to their weight. because the substance, water, and the essence. soft air, could not impede each thing alike, but give and yield to heavier bodies faster. But on the other hand the empty void 235 could nowhere and never impede a single thing. but, as its nature demands, must vield at once. And so, through the blank of void, all things must fall at equal speed, though not of equal weight. The heavier, then, can never overtake 240 the lighter, causing by themselves those impacts that start the myriad movements of creation. And so again and again atoms must swerve a little-the tiniest bit: we must not picture crosswise movement, for facts would prove us wrong. 245 For this, we see, is obvious and clear: weight of itself can never move transversely; it drops from above straight down, as we observe. But that no atom ever swerves at all from the perpendicular, who could sense and see? 250

To continue: if all movement is connected, (new movement coming from old in strict descent) and atoms never, by swerving, make a start

6. The natural direction of atomic movement

is always downward, until it is deflected from this path, either by the Swerve or by impulse from other atoms. See Introduction, pp. xii.

<sup>5.</sup> The "swerve" or "declension" of the atoms. On this most important doctrine of the Epicurean system, see Introduction, p. xii.

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on movement that would break the bonds of fate and the endless chain of cause succeeding cause. 255 whence comes the freedom for us who live on earth?7 Whence rises. I say, that will torn free from fate, through which we follow wherever pleasure leads, and likewise swerve aside at times and places not foreordained, but as our mind suggests? 260 Beyond all doubt, man's will begins all this and sends a current of movement through his limbs. Don't you see too, that though the barriers open in seconds, the plunging horses can't burst forth as much on the instant as their will demands? 265 All through their bodies the whole physical mass must be alerted, so that, alert and tensed in every limb, it follow the mind's desire. See. then: the heart creates impulse to movement, the soul wills it: from there it takes its start 270 and moves on into the body and every limb. Nor is it the same as when some muscular man strikes and propels us irresistibly on; for then, clearly, our total physical being is hustled involuntarily into movement 275 till over the limbs our will can gain control. Do you see now: though outside force propel people and push them willy-nilly on, and hurry them headlong, still within our hearts there's something that resists and can fight back, 280 and also of itself sometimes can force our physical mass to bend in limb and joint, to push to the fore, hold back, or fall to rest. Thus to the atoms as well we must allow. besides their weights and impacts, one more cause 285 of movement-the one whence comes this power we own, since nothing, we see, could be produced from nothing. Weight proves that all things are not caused by blowsexternal force; that no internal power controls the mind in every move it makes, 290 a helpless captive bound by what must be: this comes from the tiny swerving of the atoms at no fixed place and no fixed point of time.

Nor was the supply of matter ever packed more tightly nor, again, more widely spaced, for it has neither increased nor suffered loss. Therefore the basic bodies show the same patterns of movement now as in time past

7. On this, the Epicurean doctrine of free will, see Intro., p. xv.

### Book III

Out of deep darkness you were first to lift that light whose beam illumines the good in life; you, glory of Greece,<sup>1</sup> I follow, and in the marks your feet have pressed. I set and mold my step: I strive to do as you did, not so much in rivalry as in love: how could the swallow vie with the swan or, in a race, the kid match spindly legs against a great strong horse? You are our father, founder, patron, teacher: yours are the precepts; from your sacred page. as bees in meadows taste of every flower. we likewise feed on all your Golden words. golden, most worthy of eternal life. For when your Reason, sprung from godlike mind, begins to formulate Nature's Law. at once the heart's terrors disperse, the walls of the world draw back; I see things happening all through space. There shine the gods in glory, and their blest home, which neither wind can shake nor storm bestrew with clouds; nor snow crystaled by cutting frost fleck with a fall of white: its roof is a heaven cloudless forever, a gay expanse of light. Nature supplies their every need, and nothing takes from their peace of mind at any hour. But nowhere do we glimpse the halls of hell, though Earth's not there to block our view of all that happens under our feet down through the void. At this, a feeling of godlike awe and pleasure grips me, because through you the world of Being stands wide, distinct, revealed on every side.<sup>2</sup>

And since I've taught what bodies begin all things, what sort they are, how varied in their forms, how, self-impelled, they speed and never rest, and how from them each thing may be created; after these topics, my task must be to show in this my poem the nature of soul and mind,<sup>3</sup>

1. Epicurus.

 Epicurean Theology: the gods exist; they live a life of eternal peace and tranquillity. But they are without either the will or the power to affect our world in any way. A more detailed account of the gods is given 5.146-234 and 6.70-75.
Latin animus and anima. In general, the

3. Latin animus and anima. In general, the ancients did not distinguish between soul and mind, but regarded both as appropriate names

for the incorporeal aspects of human life. To the Epicureans, of course, soul and mind were corporeal, made up of atoms, like all other forms of Being. Later on in his argument (3.136-51) Lucretius will use the terms animus and anima in a specialized sense, to denote the parts of the soul. Still later (3.417 ff.) he will reverse the process and use the terms interchangeably.

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and drive outside, headlong, that fear of hell which, top to bottom, muddies the life of man. roiling it all with death's dark murk, and leaving no single pleasure pure and unalloyed. 40 For though men often claim to fear a life of illness or disgrace more than death's darkness. and say they know the substance of the soul is blood or even wind-iust take your choice!and have no need at all of my fine "reason," 45 you'll see that this springs more from vanity and thirst for praise than from sincere conviction. Put these same men in exile, drive them far from the sight of man, disgrace them, call them felons, put them to every torment, still they live, 50 wherever they find themselves, poor fools, and pray, and kill black cows, and send death offerings down to the ghouls and ghosts: misfortune stirs their hearts to even keener zeal for their religion. Yes, it is better to watch a man in doubt 55 and danger, see what he is when all's gone wrong; for only then will truth come from the heart. the mask be torn away, the man remain. Greed, too, and blind passion for public office, that make poor fools transgress the bounds of law, 60 and sometimes join to serve a criminal cause. contending, striving, straining night and day to rise to the top of the heap: these ulcered lives are nourished in no small part by fear of death. The man forgotten is shamed, the poor man bleeds; 65 such lives seem far from sweet stability. like early dalliers at the gates of death. When men, driven by unreal terror, seek to flee from here and move far, far away, with blood of friends and neighbors they buy wealth, 70 then greedily double it, piling murder on murder. A brother dies: they weep with heartless joy; they loathe a kinsman's board, and fear to share it. In similar wise often through that same fear they're racked with envy to see some man gain power, 75 to see men watch him march to fame and glory, "while we must grovel," they whine, "in muck and darkness!" Some give their lives for statues and a name. And often through fear of death men come to hate life and the sight of the sun so bitterly 80 that in a burst of grief they kill themselves, forgetting it was this fear that caused their cares.

troubled their conscience, broke their bonds of friendship, and overturned all sense of decency. Often men have betrayed both fatherland and family, seeking escape from hell's grim halls. For as in the dead of night children are prey to hosts of terrors, so we sometimes by day are fearful of things that should no more concern us than bogeys that frighten children in the dark. This fright, this night of the mind must be dispelled not by the rays of the sun, nor day's bright spears, but by the face of nature and her laws.

First I speak of the soul (sometimes called "mind"), in which life's thoughts and government are placed; it's no less part of a man than hand and foot and eyes are parts of the total living creature.<sup>4</sup>

that the sentient soul is not placed in some part but is a condition of the living flesh (Greeks call it a "harmony") that gives us life and sentience, though we've nowhere any "mind"; as when we commonly say we "have" good health, though health is no *part* of a healthy man. Thus they assign the soul to no fixed placein which, I think, they err in several ways. Often our visible surface-parts are ill while deep in the inner man we feel content; and then in turn the opposite often happens: the soul may suffer, when with the flesh all's well; precisely as, when a sick man's foot feels pain. there is in his head perhaps no pain at all. Besides, when we've surrendered to sweet sleep, and wearied flesh lies limp without sensation, there's something within us still that at such times keeps constantly moving, to each pulse of joy susceptible, and to all the heart's vain cares. Now learn how soul is one among our members, and that no harmony makes the body sentient. To begin: though large part of our flesh be lost, yet often life still lingers in our limbs; but again when some few particles of heat have fled, and through the mouth air<sup>5</sup> has escaped,

 After this line, an unknown number of lines are lost. The sense of the missing lines would have been "others disagree, and insist ..."
Heat and air are two of the basic constituents of the soul. Lucretius sometimes seems to work too hard at finding synonyms for these words: at 126, he calls them "warmth" and "wind." For a complete account of the atomic constituents of the soul, see 3.231–57, and note 7 below.

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life leaves at once, deserting vein and bone. Learn hence: all atoms do not play all parts alike, nor all alike support well-being; 125 rather, atoms that make up wind and warmth take care that life may linger in our limbs. Therefore, within our bodies there is heat and vital wind that leave us when we die. And so, since mind and soul are found to be 130 part, so to speak, of man, hand back that word, harmony, from high Helicon sent to tunesmiths (or maybe they got it elsewhere and transferred it to a thing that then possessed no proper name; in any case, let them keep it!) Hear the rest. 135

I now declare that mind and soul<sup>6</sup> are joined together, and form one single entity. but the head, so to speak, that rules in all the body. is counsel, mind, and intellect, as we say, and this is placed midway within the breast. 140 For here leap terror and panic, this spot feels sweet joy: here, then, are intellect and mind. The rest of the soul, dispersed through all the body, obeys the mind and moves to its command. For mind thinks its own thoughts, knows its own pleasures, 145 when nothing has stimulated soul or body. And as when injury attacks our head or eye, they hurt, but we're not agonized all over, thus the mind sometimes feels pain or joy and strength, when other parts of soul 150 in limb and joint have felt no novel impulse. But when the mind is deeply stirred by terror. all through the body we see the soul affected: we pale, and over all the body sweat pours out, the tongue stumbles, voice goes awry, 155 eyes are befogged, ears ring, the knees give way, ves, from sheer terror of mind we often see men fall in a faint; thus readily we perceive the union of soul and mind, for soul, when struck by mind, in turn strikes body and makes it move.

This argument also proves that soul and mind are physical things. Clearly, they move our limbs, arouse the body from sleep, change our expression, and guide and govern the man in all his being. Yet without touch, we see, such things can't happen,

6. As here stated, the "mind" is the central, governing entity, located (naively) by Lucretius in the breast. The "soul" is the diffused entity, scattered throughout the body. In function, Lucretius' "mind" is similar to the brain, his "soul" to the nervous system, but neither he nor Epicurus ever made this association.

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nor touch without matter; must we not then admit the soul and mind in fact are physical things? Besides, we see that in our bodies, soul and body act and react in sympathy. If a bristling spear has driven deep, exposing 170 sinew and bone, and yet not taking life, still faintness follows and sweet swooning down to earth, and there a sense of rocking motion, sometimes with vaguely felt desire to rise. And so the soul must be a physical thing, 175 since physical weapon and wound can make it suffer. I'll now proceed to argument and proof of what makes up the soul, and what its substance. To begin, I say the soul is subtly built of infinitesimal atoms. You may see 180 and learn that this is so from what's to come. Nothing whatever, we see, can move as fast as the mind when it conceives and starts an action; thus nothing whose nature clearly lies within our range of vision moves faster than the mind. 185 But whatever is so mobile must be made of very round and very tiny atoms, so that the slightest impulse starts them moving. Yes, just a touch makes water move and flow: it's made, you see, of small-sized shapes that roll. 190 But the nature of honey tends to be more stable; its fluid is thicker and less disposed to move. For all the atoms of its substance cling more closely, being of particles less smooth, you see, and not so delicate or so round. 195 Take poppyseed: a gentle puff of air at the top will blow a tall heap helter-skelter, but not, on the other hand, a heap of stones or grain. According, then, as particles are smallest and smoothest, they will move with ease. 200 But on the other hand, as some are found rougher and heavier, so are they more stable. Now since the soul has been revealed to be uncommonly mobile, we must grant it made of atoms very tiny, smooth, and round. 205 Take this to heart, good friend; in many ways you'll find it a useful, helpful thing to know. This fact, too, tells the nature of the soul, how fine its fabric, and in how small a space it could be held, if it were all rolled up: 210 when once the carefree peace of death has seized

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a man, and the substance of soul and mind has left him, from his whole body you'd see nothing lost in appearance or in weight; death leaves him all but the humid heat and sentience that mean life. 215 The entire soul, then, must consist of tiny atoms, strung out through sinews, vitals, veins, since, when it all has gone from all the body, the outer dimensions of body-parts remain unaltered, and not an ounce of weight is lost. 220 It's such as when bouquet of wine floats off, or breath of perfume is wafted to the winds. or when from a substance flavor dies away: to the eye, the physical thing appears no smaller for all of that, and suffers no loss of weight. 225 Why? Because many minuscule atoms make flavors and scents throughout the range of things. Thus you may know the substance of the mind and soul, I insist, is formed of most minute atoms, for, slipping away, it steals no weight. 230

But don't conclude that soul's a single substance.<sup>7</sup> When we are dving a delicate "wind" deserts us; it's mixed with "warmth" and "warmth" draws with it "air." No form of heat exists not mixed with air. Since heat has porous structure, many atoms of air are bound to circulate within it. We find that soul, then, has a threefold nature. And vet all three cannot create sensation, for none of these conceivably could cause sense-bearing movements<sup>8</sup>

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There must be another substance, then, a fourth, added to these, and this one has no name. There's nothing more mobile or tenuous than this, or made of smaller or smoother particles; this starts sense-bearing movements through our bodies. for this, built of small shapes, is first to move. It then sets heat, and wind (the unseen power) in motion, and then air, then all things move:

7. The four elements that make up the soul are (1) "wind," Latin *aura*, i.e., moving air, a cool-ing element; (2) "air," Latin *aer*, static air, a stabilizing element; (3) "warmth," Latin *vapor*, heat, a stimulating element (in its extreme form, it is the source of strong emotions); and (4) the "fourth nature," Latin quarta natura, to which Lucretius can give no name and which he can only describe as "more mobile or tenu-

ous" (243) than any of the others. It is tempting to see it as the atomic substance of life itself-as made up of "atoms of life"---although neither Lucretius nor Epicurus ever expressed the idea. Variations in proportion and prominence of these four elements account for variations in personality: see 3.294–322.

8. The latter part of this line is hopelessly garbled.

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the blood surges, and all our inward parts feel it: last to be stirred are bone and marrow. 250 whether by pleasure or its opposing blast. Pain cannot pierce that deep nor acrid evil seep there, without such total dislocation that no room's left for life: the shattered soul runs out through the body's every pore and passage. 255 But sometimes, just at the surface, movement stops and thus allows us to retain our lives. Next. how these elements of the soul are mixed and arranged to give them power, I'd like to tell, but the poverty of my native tongue forbids it: 260 still, best as I can, I'll touch the salient points. The atoms of the elements race down paths so interlocked that none could be exsected, nor could their separate powers be marked off; they're like one thing with many characteristics. 265 As in the parts of animals, commonly there's odor, heat, and taste, yet from all these together, a single complex is composed. Thus heat and air and wind (the unseen power) might join to make one substance, plus that mobile 270 force<sup>9</sup> that initiates movement for the others. whence through the body sense-bearing movement starts. This force, you see, is hidden deep, deep down; it is the inmost element in the body, and is, beyond that, the soul of all the soul. 275 As in our parts and the body as a whole the force commingled of mind and soul lies hidden because its atoms are small and widely spaced, just so this nameless substance made of tiny atoms, lies hidden and is, as it were, the soul 280 of the total soul and rules our total being. In similar fashion, wind and air and heat must show a corporate power in our bodies; one may lie under the others or rise above so that they all three seem to become just one, 285 yet heat and wind alone, or air alone, single and separate, would destroy sensation. Heat, now, the soul does have, and puts to use when wrath boils up and eyes flash hot with fire; wind it has, too, cold comrade of our fears, 290 that makes us shiver and unstrings the knees. And then there's air, pacific, static thing, that comes with tranquil mind and smiling face.

9. I.e., the "fourth nature." See note 7, above.

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But they have more of heat whose hearts burn high and with slight cause flare up and see the with fury. High among these we rank the savage lion, who often roars to burst his lungs, and snarls, and can't contain the wrath that floods his breast. But in the deer's chill heart there's more of wind: it sends swift icy currents through his flesh, and causes a trembling motion in his limbs. But cattle are governed more by placid air: the torch of wrath is never thrust too close, spreading its clouds of black and blinding smoke. nor are they numbed by terror's icy shafts: they stand midway twixt deer and savage lions. Just so with man, though education give whole groups a like high gloss, still there remain in each man's heart marks of his basic nature. Never imagine all vice can be uprooted. One man too readily flies to wrath and rage, one is too quickly troubled by fear, a third takes things a bit more calmly than is right. In other ways, too, the natures of men must vary, each having its consequent traits of character. I cannot now expound their hidden cause nor find a name for each configuration of atoms, from which these varying traits arise. This one thing, though, I see I can affirm: in human nature, the problems that remain insoluble by reason are so petty that nothing prevents our living as gods should live.

This nature, now, is gripped by all our flesh, is source of the body's welfare, and its guard; for roots common to both hold them enlaced, nor can they be pulled apart and not be damaged. As myrrh cannot be readily stripped of scent without destruction of its substance, too, so mind and soul cannot be readily drawn out of the body but that all three must die. From the very first their atoms are so entwined together that life becomes a partnership; and neither body alone nor soul alone without the other's help can cause sensation, for movements common to both merge into one, to hasten sentience through our inward parts. Besides, in isolation, body can never be born or grow or, after death, persist. It's not like water, that often loses heat

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it has received, and is not harmed thereby but stays intact—not so, I say, can flesh suffer departure and divorce of soul.	340
No, it will be disrupted, die, decay. From the first moment, body and soul conjoined one with the other, learn how life must move, still deep in the mother's body and her womb; sunder them, and they sicken and waste away. You see, then, since their welfare lies in union,	345
their substance must be unified as well. Further, if anyone says that flesh can't feel and thinks that soul, mixed with the flesh throughout, picks up the movement that we call sensation,	350
he battles against the manifest facts and truth. "Flesh feels": what ever will tell us what that means except what the facts have plainly shown and taught us? "But send off soul, and body is all insensate!" Yes! It has lost what it never owned in life, (and much else, too, when it is expelled from life.) <sup>1</sup>	355
Further, to say eyes have no power to see, but soul looks through them as through open doors, is wrong, for the sentient act refutes this view. That act remands us to the eye, the organ, especially since we often can't see bright things	360
because their gleam curtains the gleaming eye. With doors, this doesn't occur; when doors are opened to let us see, they suffer no distress. Furthermore, if our eyes are just like doors, then with the eyes removed the soul should see	365
still more, since the very door-posts would be gone. Here, too, is a theory you must not accept (Democritus, saintly man, thought it correct): that atoms of soul and body alternate	370
In the first place, atoms of soul are much, much smaller than those which build the body and inward parts. They're fewer in number, too; just here and there an atom scattered through flesh. Rest then assured:	375
the size of bodies that, impinging on us, can start sense-bearing movements in our body, shows us how far apart soul-atoms lie. For often we fail to feel the dust that clings to the body, or powder that strikes and settles there;	380

1. The point is that sensation is a function of body and soul *in combination*; neither one, if divorced from the other, has sensory powers. The last two lines of this passage seem a gratui-

tous addition to the thought. The idea seems to be that the body does not "own" the soul, or any other part of its make-up; its properties are the result of fortuitous combinations of atoms.

to notice the mist at night, or feel the fine web of the spider, netting us as we pass, or his dried-up coat that drops upon our heads. 385 or feathers of birds, or floating thistledown, that for vast lightness grudgingly descends. Nor do we feel the passage of crawling creatures (just any kind) nor the separate single footsteps that gnats and the like set down upon our skin. 200 To such degree must many atoms be stirred within us before, commingled with our flesh, the particles of soul are roused to sentience. before, too, chains of impulse race across the spaces, and meet, and then bounce back again. 395

Now, too, the mind, for maintenance of life and its control, is stronger than the soul; without intelligence and mind, no part of soul can live one moment in the body. but follows them out and scatters to the wind 400 and leaves the body cold in icy death. But he remains alive whose mind remains. Lop off his limbs all round, leave him a bloody torso, take out the soul from all those parts; he lives, and breathes the vital breeze of heaven. 405 Deprived, if not of all, yet of large part of the soul, he stays alive and clings to life. Just like the eve: cut round it: if the pupil remains unharmed, the power of sight lives on. Only, you must not damage the eye's whole sphere-410 cut round the eveball, leave it alone untouched (and even this is dangerous for the organ). But if that tiny central part is punctured, light dies at once, and darkness then ensues. though the eve is otherwise unhurt and bright. 415 Such everlasting bond links mind and soul.

Come now and learn that mind and soul (slight things) are born in living creatures and must die. For this, I spent sweet hours of toil to find verses worth your perusal: here they are! Be sure that under one name you join the two, and when, proving them mortal, I say "the soul," believe that the word will mean "the mind" as well, since both make up a unit, a thing conjoint.<sup>2</sup> To begin,<sup>3</sup> since I have proved it delicate

2. On the distinction between "mind" and "soul", which Lucretius here eliminates, see note 3 p. 57.

3. Lucretius here launches into a long series of proofs of the mortality of the soul. With great

ingenuity, he bases a number of these proofs on the very characteristics of the soul that, to the "orthodox" Roman, proved its *immortality*. For a convenient summary of the latter, see Cicero On Old Age IV. xxi. 78.

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and made of tiny atoms-particles much smaller than those of clear and fluid water, or fog or smoke, for it is far more mobile and moved by impulse far more delicate. Why! it is moved by the *image* of smoke and fog! Just as when asleep and deep in dreams, we see altars breathing out vapors and making smoke, these come to us, no doubt, as images. Now since, from jars all badly cracked, you see water leak out and liquids flow away, since fog and smoke, too, scatter to the winds, be sure that soul disperses even faster and dies more quickly, dissolving into atoms once it has gone and left our human frame. Now since the body-the soul's jar, so to speakwhen somehow badly damaged and left porous by drainage of blood, cannot contain the soul, how do you think a thing like air could hold it, a substance much more porous than our flesh?

Further, we sense that body and mind are born together, develop together, and age alike. Children's bodies are weak, unsteady, soft: just as their minds and thoughts are unsubstantial. Then as they grow in bodily strength and years, their minds increase in wisdom, wealth, and power. Later, when heavy blows of time have damaged the body, blunted its powers, and made it droop, intelligence limps, tongue stumbles, reason slips, then all together the whole complex collapses. It follows that all the substance of the soul dissolves like smoke into the tall fleet air; for body and soul, we see, are linked in birth, in growth, and in the weary waste of years.

Add now that we may see how, just as body suffers portentous illness and harsh pain, so soul knows acrid care and grief and fear; therefore, by logic, it shares in death as well. Further, when body is ill, soul goes awry often; it raves and utters foolishness, and sometimes lethargy weighs it down to deep and endless sleep, when eye and will are lost; from there it hears no word, and cannot tell the faces of those who, calling it back to life, stand round while tears bedew their eyes and cheeks. And so we must admit: soul, too, dissolves, because contagion and disease can reach it. For pain and disease are builders, both, of doom,

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as we have long since learned from countless deaths.<sup>4</sup> 473 Why, too, when the bite and burn of wine have reached 476 into a man and spread out through his veins. do limbs grow heavy and legs impede each other and wobble, the tongue turn dull, the mind go sodden. the eves flow over, shouts, sobs, and curses rise 480 and other consequences of this kindwhy do they happen, except that wild rude wine must always muddle the mind inside the body? But things that can be muddled and tangled up show us that if a somewhat harsher cause 485 slipped in, they'd perish, deprived of further life. Yes, often a man seized suddenly by disease falls as we watch, as if a thunderbolt had struck him; he foams, he groans, his body trembles, he babbles, turns rigid, and writhes; his breathing comes 400 in gasps, and muscular spasms tire his limbs. The disease, you see, has spread out through his body, attacking the soul \* \* \* on the salty sea when winds blow wild, the hissing waves run high.<sup>5</sup> He utters a groan because his flesh is racked 495 by pain-in sum, because his atoms of voice are unseated, massed, and forced out through the mouth, the path they take, so to speak, by use and training. Madness comes on because the soul and mind. confused and, as I've shown, riven apart, 500 are wrenched and tattered by that same toxic force. Now when the disease relents, and the acrid humors that attacked the man return to their hiding-holes. the victim gets up, unsteadily at first, then slowly recovering sense regains his mind. 505 And so, when the soul is racked within the body by such disease, and wretchedly wrenched and vexed, how can it, outside the body, in open air, maintain its life, do you think, where wild winds blow? And since disease of soul, like bodily illness, 510 can be, we observe, by medicine checked and cured, this fact as well suggests that soul is mortal. For whoever starts and attempts to change the soul or seeks to alter any existing thing, is bound to add some parts or change their order<sup>6</sup> 515 or else subtract some fragment from the whole. 516 But deathless things will not permit their parts 4. Line 474 (=510) and 475 have been omitted one line has been lost here.

by editors. 5. The text is corrupt, and the ineptness of the reference to the sea suggests to me that at least 6. For the sake of clarity, I have transposed lines 513-14 to follow 515-6.

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to be moved about, augmented or diminished, for whatever changes and leaves its natural bounds is instant death of that which was before. Thus, whether soul falls ill or is restored by medicine, it has proved its mortal nature. To such extent, we see, truth obviates false reason and blocks its access to escape: a dilemma refutes it and proclaims it false.

Further, we often observe that men will die slowly, and limb by limb lose vital sense. First, in the feet the toes and nails turn blue, then feet and legs: they die; next through the parts remaining, the trace of icy death moves on. Since, here, the soul is broken, and comes out not whole nor all at once, it must be mortal. Now if you think the soul might, through the limbs, draw inward and contract its parts to one, thus taking sentience from our total being. but then that spot, where all that mass of soul was pressed, should have, it seems, much heightened sentience. But that "spot" doesn't exist, for, as I showed, the soul, torn up and scattered abroad, has died. Why no! If it please us now to grant the false and say soul can be massed inside the bodies of those who, leaving the light, die bit by bit, you must concede, still, that the soul is mortal: what matter whether it's lost, dispersed in air, or drawn in, crushed, contracted into nothing? In the whole man, the senses more and more are failing, and less and less is left of life.

And since mind is one part of man, and stays fixed in its proper place, like ears and eyes and all sense organs else that guide our lives; and just as the hand and eye or nose, when severed, cannot still sense and live apart from us, but in brief time must soften and rot away, so the soul can't live by itself; without the body, without that man who is, so to speak, its "jar" or think, if you wish, of things more intimate, since soul and body cling and are closely joined.

Further, the living power of body and soul have strength and life by virtue of their union; for without the body, the soul cannot alone of itself produce life-movements, nor the body, stripped of the soul, survive or have sensation. Of course! Just as an eye, torn from its roots,

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cut off from the body, could of itself see nothing, so mind and soul by themselves are powerless. 565 After all, commingled with the flesh and veins. sinew and bones, they're locked throughout to body; their atoms cannot leap free, far, and away. When thus confined, they execute sense-bearing movements, which after death, in open air, \$70 outside the body, they cannot execute, because they are not in similar wise restrained. Air would be body, and animate, if the soul could hold together and make those locked-in movements which it had made before in flesh and sinew. 575 Say it again: when all our fleshy husk is loosened, and the breath of life cast out, you must admit that sensate soul and mind break up; a single life links soul and body.

Further, since body cannot stand divorce 580 from soul, but that it stink and rot away, why doubt but that the soul, from deep within, began to diffuse and trickle out like smoke: and hence the body, so changed by rot and ruin, collapsed, because its basic stuff and structure 585 were wrenched awry as soul seeped from the parts through all the body's labyrinthine paths and pores? Thus you may learn that many ways soul was divided as it passed through flesh and, still in the body, was torn apart before 590 it slipped and floated out to open air. Further, while soul yet lies within the bounds of life, we often see that, by some cause weakened, it seeks release from all the body: the face turns ashen as in life's last hour, 595 and every limb falls flabby and bloodless down. This happens, as people say, when "soul is smitten" or "heart has failed"; then everyone, in panic, tries to restore that final link with life. For then the mind and soul, in all their power, 600 are shaken and shattered, and with them the body, too, and a slightly heavier blow could break their bonds. Why do you doubt, then, that the poor, weak soul, pushed from the body, uncovered, in open air, not only could not survive throughout all time. 605 but couldn't maintain itself for one brief moment? For no man dying ever feels his soul step out of all his body in one piece, or move up to his throat, then to his mouth;

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rather he feels it fail fixed in its place, as, each in its proper spot, he notes the senses destroyed. But if we had immortal souls, at death they wouldn't complain of their destruction, but step out and slough their clothing, like a snake.

Further, why don't the intellect and mind grow in the head or feet or hands, but always, in everyone, cling to a single, special region, if everything hasn't its special spot assigned for growth, where, once created, it persists, and things have parts so manifold, so discrete, that nothing is ever outlandishly arranged? Things come in logical sequence: flames don't rise from rivers, nor ice commonly form in fire.

Besides, if the soul in substance is immortal and, set apart from the body, is sentient still, we must, I think, endow it with five senses. In no other way can we here theorize that, down below, souls wander in Acheron. Thus painters and poets of an earlier day have laid before us the souls endowed with senses. But souls cannot have separate eyes or hands or noses—no, nor separate tongues or ears; and so, by themselves, they neither can sense nor be.

And since we note that vital sense inheres in all the body, and all the body has soul, if on a sudden some force, with lightning blow, should cut it at midpoint, leaving it in two halves, doubtless the soul, too, would be sliced and severed into two parts, dismembered with the body.

But anything cut to sections of any size 640 disclaims eternal nature for itself. Men tell how scythe-armed chariots, spattered hot with blood, will often lop off a limb so fast that, cut from the body, it falls to earth and lies there twitching, while yet the man, alive and strong, 645 fails through speed of the wound to feel its painbesides, his mind's absorbed in zeal for battle. With all that's left, he heads for the fight and kill, unaware that a passing team, with wheel and scythe, have carried away his left arm, shield and all. 650 Another climbs on, unaware of a lost right hand, another tries to rise on a missing leg (dying, it lies on the ground, the toes still dancing); and the head cut off from a body still warm with life keeps on the ground wide eyes and lifelike look 655

And the coarser each one of these bloodlines is. 1005 the more they show their fierceness in their dreams. But bright birds take to flight, and with quick wings affright the groves of the gods long after dark, if in sweet sleep they had a dream of hawks swooping, pursuing, attacking in flocks or singly. 1010 The minds of men, great thinkers of great thoughts, are likewise busy in dreams with plot and act; they drive out kings, are captured, join in battle, they scream, as if their throats were being cut. They fight to the death, sometimes, and moan in pain; 1015 and as if gripped by the jaws of savage lion or panther, they fill the whole house with their screams. Many mean speak in dreams of weighty matters. and all too often betray their own misdeeds. Many meet death; many, like those who plummet 1020 from mountain-top to earth, in all their flesh know panic; they wake, but still entrapped in mind, they scarce regain their wits for physical terror. Men sit thirsting beside a lovely spring or brook and nearly gulp the whole stream down. 1025 And innocents, sometimes, in the grip of sleep thinking they lift their shirts by some latrine. pour out the body's whole embladdered liquid. and soak their gorgeous silken coverlets. Then those whose semen for the first time flows 1030 into their youthful parts, now timely ripe, encounter images, sloughed off from some person, that tell of a lovely face and soft, smooth skin: these rouse and tickle that place with seed full-swollen, and often, as if the act were done, it spreads 1035 a stream, a surge, a flood, and stains the bed. That semen, as I've just said, is stimulated in us when manhood makes our bodies strong. Many things stir and stimulate other things;

man's power alone draws human seed from man. Soon as it's forced out from its starting points all over the body, it moves through limb and organ and, gathering at one special spot, at once rouses the body's genital parts themselves. The organ tickles and swells with seed; we will to eject it whither desire directs itself,<sup>2</sup> straight toward the body that wounded us with love. For normally men fall *toward* a wound, and blood wells outward *toward* the blow that wounded us; 1040

2. Line 1047 = 1034, and is omitted by editors.

Book IV

yes, if the enemy's close, he's drenched with blood. Thus he who's wounded by the bolt of love (whether a boy with girlish limbs has struck him, or a woman, darting passion from every pore) turns toward the source of hurt, and aches for union, to jet his humors, body into body; desire, though wordless, tells of joys to be.

This we call "Venus," hence we speak of "love"<sup>3</sup> and of that drop of passion, first and sweet, that trickles into our heart and brings cold care. For if your love is absent, still her image is with you and her name sings in your ear. But we must shun these images and scare off what feeds our love, and turn our thoughts elsewhere, and jet our humors into someone's body, not keep them, and, once trapped by one lone love save up sure woe and worry for ourselves. For if the cancer's fed, it lives and grows; in time, folly's a fever and pangs are millstones, if fresh hurts aren't distracted by new bruises, and we don't take to the streets to cure young love or else divert our thoughts and minds elsewhere.

Nor, lacking passion, must one lose love's joys; rather, one gains pure happiness, at no cost. For certainly to the healthy, pleasure's purer than to the sick. In the moment of possession impassioned lovers waver, blunder, stumble: they can't decide where first to look and touch. Whatever they seize, they crush, inflicting pain of body; sometimes they press tooth into lip and kiss like a flail, for theirs is no pure pleasure: in it are lash and goad, perforce to hurt that object, whence this burgoning madness rose. But in the act, love gaily blunts these pangs, lets pleasure in, and gently curbs distress. For there is hope that in that very body that set us afire, the flame may be put out. But nature battles against this whole idea;

3. This passage is often referred to as a "tirade against love" or (Bailey) an "attack on the passion of love." It is rather an attempt to analyze and explain, in Epicurean terms, the phenomenon of sex in all its aspects, beginning with the sexual dream (1030–36) and discussing the impulses toward and mechanics of sexual union, the causes of fertility and sterility, the problems of genetics, the transmission and inheritance of physical and psychological characteristics, and above all, the dangers that sex poses for the Epicurean ideal of pleasure. More than any other human activity, sex, pleasant in itself and therefore good, tempts us to overindulgence and thoughtless complaisance, thus exposing us to the danger of turning what was essentially pleasant and good into something painful and evil. The passage is one of the most brilliant parts of the entire poem, requiring hardly more than a number of changes in terminology to bring it into harmony with modern discussions of sex. It might properly be entitled "The Physiology, Psychology, and Philosophy of Sex."

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#### 108 • The Nature of Things

love's the one thing, of which the more we have the more the heart burns with insane desire. 1090 Now food and drink are taken into the body. but since they settle in predetermined spots our need for bread and wine is readily filled. But from a human face and soft, smooth skin the body gets nothing to use but images-1095 slight things, poor hopes the wind off whips away. As one in dreams who, thirsting, looks for water but finds none that might cool his fevered flesh; (he struggles to reach the fluid—vain mirage: midway a roaring river he drinks and thirsts) 1100 so Venus deludes fond lovers with simulacra. They view bare bodies but get no fill of viewing: hands chafe but win no substance from young flesh, though they roam wildly over all the body. Besides, when two lie tasting, limb by limb, 1105 life's bloom, when flesh gives foretaste of delight, and Venus is ready to sow the female field. they hungrily size each other, mouth to mouth the spittle flows, they pant, press tooth to lipvainly, for they can chafe no substance off 1110 nor pierce and be gone, one body in the other.<sup>4</sup> For often this seems to be their wish, their goal, so greedily do they cling in passion's bond, till pleasure loosens their limp and fainting limbs. Yet, when impounded lust has burst from sinew. 1115 hot passion, just for a moment, makes a pause. Then men go mad again, wild lust returns, while even the passionate wonder what they want. and find no artifice to assuage the pain. so helpless, weak, and blind the wound has left them. 1120 Add that they waste their strength, they strain, they die; add that the will of a woman rules their life. Fortunes go first, for Oriental robes. then honor and reputation totter and fall. Perfumes, fine slippers for her pretty feet, 1125 of course, and flashing emeralds, huge and green,

4. Milton's description of angelic love bears a curious, and probably not entirely coincidental, resemblance to this passage; *Paradise Lost* 8.618–629.

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set in pure gold; blue gowns for everyday,

a holiday dress, imported silks and satins.

to be rumpled and sweat-soaked in the act of love. A grandsire's hard-earned wealth turns into jewels,

We buy fine food, fine clothes and entertainment, garlands and perfumes, wines for everyone;

no use, since in the midst of bubbling joys, bitterness rises and turns bright bloom to pain, sometimes when conscience sets the tooth of guilt 1135 to self for useless living and wasted years. or a girl has tossed some doubtful word, and left it fixed in our foolish heart like living fire. or cast too free an eve upon some rival. or shown a trace of mockery on her face. 1140 And these are thrills that plague acknowledged love, when all goes well; but when love's poor and luckless, you'll pick up troubles by thousands with the eye blindfolded; better to be on watch before and avoid the pitfall, in the way I've shown: 1145 to keep from falling into the snare of love is not so hard as to escape the net once caught, and burst the knotted bonds of Venus. Yet, even snared and tangled, you can still get free, unless you block your own way out, 1150 and start by ignoring every fault of mind or body in her whom you desire and want. For this men often do when blind with lust. bestowing virtues where they don't exist. Hence we see ugly, shapeless women loved 1155 like precious darlings, loaded with wealth and honors. And some men mock their fellows, and bid them beg Venus for mercy, so sick, so foul their love, and never observe, poor fools, their own worse ills. Sallow is "honeyed," unkempt, unwashed, "informal"; 1160 she stares: "a goddess!" all bone and muscle: "a fawn!" Dumpy? "She's exquisite! Tiny-but what a mind!" Huge and clumsy? "Portentous! Pure dignity!" Hare-lip? Tongue-tied? "No, lisping," "self-effacing!" Shameless? A hideous bore? No, "Wisdom's lamp!" 1165 Stringy and thin? Not long to live? "She's dainty, a darling!" Bad cough? One foot in the grave? No, "frail!" Bulging? Huge-uddered? "A Ceres, suckling Bacchus!" Pug-nosed? "A saucy nymph!" Thick-lipped? "For kissing!" And so on and so on: the rest is long to tell. 1170 But grant her now the world's most lovely face, let every inch of her flesh breathe forth love's power: still there are others, still, we lived years without her; still (and we know it) she does what the homely do: drenches herself, like an idiot, with vile smells 1175 (her slaves slip out and titter behind her back). But a shut-out lover tearfully loads her door each night with flowers, and oils the heartless hinges

with perfume, and-fool!-plants kisses on her steps; vet let him enter, and if one single whiff 1180 should meet him, he'd look for good excuse to leave. forgetting the ballad he'd learned, wrung from the heart, scolding himself for a fool, because he'd see he'd granted her more than man may be allowed. Nor does this escape our ladies: more than ever 1185 they struggle to hide these backstage bits of life from the men they wish to hold fast-bound in love. Vainly, for you by taking thought may draw all this to the light, and analyze every smile. If hers is a pretty wit, and herself not gross, 1100 let her go-her too; she's human; accept that fact. Now woman will sigh for love, not always falsely. Embracing her man, she joins him, flesh to flesh; kissing wet-lipped she covers his mouth with hers. Often she acts sincerely; seeking joy 1195 for them both, she sends him racing down love's track. Not otherwise, birds and beasts of field and forest. cow, ewe, and mare, can move beneath their males: their very female lust wells up and burns and joys to feel and fondle their mounting lovers. 1200 Don't you see, too, how those whom shared delight has linked and interlaced are racked with pain? How often dogs in the street strive might and main, pulling and panting, to go their separate ways, yet still are helpless, locked in sex together. 1205 They'd never do this but for shared delights: these trick them, throw them together, and hold them fast. I say it again: the sexes share this pleasure. Now when at mingling of seed the female force seizes, subdues, and dominates the male. 1210 the children, from mother's seed, are like their mothers: vice versa, like their fathers. But those you see like both, with features mingled of both parents. grew from the father's flesh and mother's blood when love-seed, roused and coursing through their bodies, 1215 met with equal ardor, united, lived, and neither was dominant, neither one subdued. Sometimes it happens that children may resemble grandparents, or show a great-grandfather's face. This is because our parents often carry 1220 a host of atoms combined in countless ways. passed down the family line, father to son; hence Venus at random draws resemblances, the face of an ancestor, or his voice, his hair,

since these arise as much from special atoms 1225 as do complexion, body-type, and size.<sup>5</sup> The female, too, comes from the father's seed and males find origin in the mother's flesh. for every child is born of twofold seed, and every child resembles more that parent 1230 of whom it has more than half: this we observe whether the child's of male or female sex.6 Now godhead (that bugaboo) will never stop conception, so that no sweet child ever calls us "father." and love is sterile all our lives. 1235 Yet many believe so; saddened, they drench the altars with blood, and with burnt offering fog the shrines, for floods of seed to get their wives with child. A waste of time, to weary the gods and fate! The sterile, in part, have seed too coarse and heavy, 1240 or again, more thin and watery than should be. This seed can't firmly fasten itself in place. but slips right off, withdraws, and is expelled. Coarse seed, again, comes in unwieldy masses: it either can't be propelled with proper speed, 1245 or can't pierce through to the place, or having pierced, can't mingle readily with the woman's seed. Suitable union in sex takes many forms. Some serve one woman better, some, another; women grow pregnant better by different men. 1250 Many a woman, sterile though often wed, finds later a man by whom she can conceive children-treasures to fill their lives with joy. And men to whom a train of fertile wives have borne no child, find mates, they too, well matched, 1255 who'll bear them sons to comfort their old age. So much it matters that seed be capable of mixing with seed in modes of generation, mesh coarse with watery, watery mesh with coarse. It matters, too, what foods sustain our lives, 1260 for some will strengthen the seed within our bodies, while others will make it weak and watery. The modes of the act by which we gain sweet pleasure are all-important too; in wild-beast fashion and four-foot style, men commonly believe, 1265 our wives conceive more readily, for their parts 5. Here, without realizing it, Lucretius has deentities to procreation. He does not, to be sure,

scribed genes, and their role in the determination of physical characteristics.

6. Lucretius here shows an understanding, nearly unique in the ancient world, of the fact that both male and female contribute physical entries to procreation. He does not, to be sure, distinguish between ovum and sperm (both are called "seed"), but he is far in advance of ancient physiology in general, which taught that the "seed" came only from the male, who "planted" it in the female's body.

#### 112 • The Nature of Things

(breasts down, hips high) best take the seed this way. And wives must make no lustful movements, either, for women prevent conception, beat it back, when for delight, their parts caress the man's, and liquid flows from lithe and twisting flesh; for they throw the furrow awry and skew the path of the plow, and make the seed-cast miss the place.<sup>7</sup> For their own purposes, whores will make these motions, to avoid conception and idle, pregnant days and also to make love pleasanter for their men. Of this, our wives clearly can have no need.

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Nor is it by hand of god and shafts of Venus that a girl ill favored of form may yet find love. For sometimes by her works and ways, by kindness, patience, neatness, and good taste, woman may win you to share a life with her. And anyway, habit's the builder of affection; for things though lightly struck, yet constantly, in the end are overcome and must give way. You see how even drops of water, falling on stone, in course of time bore through the stone.

Who has the might of mind to write a poem worthy of all the majesty here discovered? Who has the power to marshall words of praise meet for the merit of him whose mind sought out. garnered, gained, and bequeathed such wealth to us? No man, I think, born of mere mortal flesh. Here stands a world revealed in all its grandeur. Sav it, Lord Memmius: "He was god-yes, god!" who first unveiled that way of life and thought we call "philosophy" now, and who, by science, took life from storms so vast and such vast darkness into a calm so great and light so clear. Compare the old god-stories of other men. Ceres,<sup>1</sup> so goes the fable, just gave grain, and Bacchus<sup>2</sup> the vine-juice, wine, to mortal men; vet even so, men could have lived without them. as to this day, we're told, some people live. But good life never could be without pure heart. More properly, then, he seems to us a god, for even today, spread through the great, wide world, his sweet words comfort lives and soothe men's souls. A Hercules<sup>3</sup>, you think, might match his deeds? Then you will travel far from truth and reason. Lion of Nemea (those great gaping jaws) Arcady's Bristle-pig: how could they harm us now? The Bull of Crete, and Lerna's Pest, the Hydra stockaded with poison snakes; what force have they? What force three-chested Gervon, triple-twinned?4

so harm us, denizens of Stymphalus, and Diomede's horses, with their fiery breath in Thrace, near Ismara and Bistonea's plains? The Guard of the Golden Apples of the West, that scaly, hypnotic-eyed, gigantic snake, coiled round his tree trunk—how could he do us harm beside the Atlantic, shore of the Frowning Sea,

1. Goddess of grain, especially of wheat. She was identified with the Greek goddess Demeter.

ter. 2. The god of the vine, also called Dionysus. His cult featured wild dancing and singing, performed in mountain retreats by women (the Bacchantes).

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4. After this line, at least one line has been lost.

<sup>3.</sup> The Greek Heracles, famed for his "Twelve Labors," some of which Lucretius mentions in this passage.

into one space, they pour out under pressure atoms that make the color of flame shine bright. There's lightning, too, when sky-borne clouds thin out. For when wind gently pulls them apart in passing 215 and breaks them up, those atoms perforce must fall that make the flash. Then, without ugly terror and rumble, the lightning comes, and there's no panic.

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Finally, what the substance of the lightning may be is clear from the strokes and from the marks of burning, and signs, the choking smell of sulphur. For fire, not wind or rain, leaves signs like these. Besides, they often set fire to roofs of homes; flames race through the house and soon engulf it all. This fire, you see, is finest of finest fires; 225 nature has build it of bodies microscopic and mobile, which nothing at all has power to stop. The lightning of heaven goes through walls of houses like shouts and speech; it goes through stone, through bronze, and in a second turns bronze and gold to liquid. 230 It makes wine, too, evaporate instantly from flawless jars, because with ease it stretches and opens the pores of pottery all around. Then comes the heat; it penetrates the wine nimbly, breaks up and dissipates its atoms, 235 something we see the sun's heat cannot do in years, for all its force and heat and speed. So much more mobile and masterful is the lightning.

Lightning, now-how it comes to be, and have such force that its stroke can tear a tower apart, demolish houses, scatter their beams and planks, dislodge and tumble the monuments of men. kill people, slaughter farm animals everywhere. what gives it power to do all things like these, I'll tell you, and stop no more for promises.

Consider lightning the product of thick, dark clouds piled high; it never occurs at all when skies are clear or when the clouds are light and thin. And obvious fact proves this beyond all doubt, for then clouds mass so deep all over heaven. we'd think Hell's barren shadows all escaped and filling the caverned vastness of the sky: for in that filthy night of clouds there hang. hosted above us, faces of black fear, when storms begin to build the lightning bolt. Often, besides, at sea, a black cloud mass, like a river of pitch poured down from heaven, falls

far out on the waves, so packed with shadows, and big with a dead-black freight of lightning and hurricane, so filled to the full-none more-with fire and wind. 260 that even on land men shiver and run for home. Consider, then, that over our heads the storm is towering tall, for never could it black out the world with murk if cloud weren't piled on cloud like masonry, heavy and high, cutting off the sun. 265 Nor could rains come and fall so heavily that rivers flow over their banks and flood the fields. if heaven were not piled high with towering clouds. Here, then, the whole extent is full of wind and fire; hence, here and there, come roars and flashes. 270 I showed above, you know, that hollow clouds must hold unnumbered seeds of heat, and draw still more from the rays of the sun and from their glow. Thus, when the wind that blows them to one spot (no matter where) has forced out many seeds 275 of heat, and joined to mingle with that fire, it slips inside; confined, it whirls and spins and with furnace-heat sharpens the lightning bolt. For two things make it glow: from its own movement it turns red-hot, and from the touch of fire. 280 When wind then grows white-hot, and fire has gained full force and speed, then lightning, as if ripe, rips through the cloud, bursts out, and speeds away, filling the world with flashes of light and flame. A loud noise follows, as if the zones of heaven. 285 blown suddenly to bits, were dropping on us. Then tremors trouble and try the world, and thunder rumbles across high heaven, for then the whole storm front is shattered and shaken: it rolls and roars. After that crash the rains fall fast and heavy: 290 you'd think all heaven was turning into rain, and pouring as if to call up the Flood again, so heavy the fall, as clouds rip open and storm winds blow, while flashes and roars explode and fly. Sometimes a powerful wind from outside swoops 295 into a cloud hot with ripe thunderbolts and tears it apart; at once, out drops that swirl of fire, for which our native name is "lightning." (This happens, here, there, wherever the strong wind blows.) Sometimes, besides, a strong wind free of fire 300 may still, as it wanders miles of space, catch fire, and rushing along its course, lose certain bodies which, being coarse, can't pass through air so fast;

others it scrapes from the air and takes along: small, but blown into compounds, they make fire; 305 in fashion much as a ball of lead.<sup>9</sup> that often turns hot in its course, when, losing many atoms of cold, it picks up fire from moving air. It happens, too, that impact alone wakes fire, when cold strong wind, though fireless, has struck hard; 310 for when it strikes, you see, with all its force, atoms of heat may gather and pour from it and from the thing as well that took the blow; just so sparks fly when we cut stone with steel. Nor, because steel is cold, are atoms of heat 315 and light too slow to gather at point of contact. Thus, too, must things be set after by lightning if time and substance are suitable for combustion. Nor can wind be so plainly, utterly cold, so hopelessly, as it roars down out of heaven. 320 that if in passage it failed to catch afire it might not still come warm and mixed with heat.

Now lightning moves so fast and strikes so hard and almost races across so swift and smooth. because, to begin, it gathers force inside 325 the clouds, and builds up pressure as it moves; then when the clouds can't prison its heightened power, it bursts out with incredible force and speed, like a missile hurled from a powerful catapult. Add, that it's made of smooth and tiny atoms, 330 and nothing can easily stop such substances, for they disappear and pass down devious paths. Endless collisions, then, can't slow it down or halt it; for this, it flies with smooth, swift speed. Besides, since all things having weight press downward 335 by nature, when impact supplements that weight, their speed is doubled and their force augmented; hence, faster and more violently, they strike and shatter whatever blocks them and fly on. Lastly, things that come far and fast must gain 340 velocity all the time: it grows with movement, increases power and force, and heightens impact. For it makes all atoms whatever of that sort gather in conclave, so to speak, from Space, then hurls them together, spinning down that track. 345 Perhaps, in passage, it draws from air itself atoms that strike and kindle it as it moves. It passes unharmed through things, and many it leaves

9. See note 8, above.

undamaged: its fluid flame whips through their pores. And many it fixes fast, when atoms of lightning fall twixt the particles where two fabrics join. It melts bronze easily, too, and gold it sets seething at once, for lightning's power is built on particles-atoms-so smooth and so minute they slip in easily; and, slipped in, at once they break each contact and loosen every bond. In autumn the sky-vault tricked with shining stars and the whole wide world are oftener set to shaking. and again when springtime opens flowers in bloom. On cold days, fires are gone, and winds are short of heat, and clouds are not so densely packed. And so, when weather and season stand midway, then many causes of lightning happen at once: these "narrows" of the year mix cold and heat, and a cloud needs both of these for forging lightning, to set two stuffs in discord and confusion, and drive air mad with surging wind and fire. You see, where heat begins, there cold leaves off, and that's your springtime; thus the two must fight, unlike as they are, and mixed, cause wild confusion. Again, when the last of heat rolls round, to mix with the start of cold, the season we call autumn, here, too, harsh winter days conflict with summer. That's why we call it the "narrows" of the year; no wonder if at that season there's so much lightning, and storms race murky across the sky, since two are at war, wild war, one here, one there, on this side, flame, on that, wind mixed with water.

It's thus we understand the nature of lightning, bearer of fire, and see what powers its acts, not by foolish research on Tuscan song,<sup>1</sup> looking for hints of the hidden intent of god: "From which zone may the flame fly down, or toward which quarter turn? How could it thread its way into walled places, win through them, and come out? What harm might a lightning bolt from heaven do?" But see! If Jove and the other gods make heaven shake in her shining zones with fearful sound, and hurl the fire, each where his will directs, why don't they strike the heedless sinner, guilty of filthy crime, and make him breathe bright flame

 The Etruscans had written treatises in which they ascribed the lightning to deliberate action on the part of the gods, and asserted that it was this divine intervention that gave the lightning its remarkable power. Lucretius of course denies this, as he does all supposed instances of divine intervention.

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through transfixed lungs, harsh lesson to mortal men? Instead, one conscious of never a shameful act is wrapped in flames and writhes all innocent. caught unawares by spiraled fire from heaven. 395 Why, too, do they hurl at deserts-waste of effort! Or is this throwing-drill and muscle-training? Why do they let Jove's bolt be dulled on dirt? Why does he let it, nor save it for enemies? Lastly, when skies are clear, why does Jove never 400 throw lightning to earth and pour out floods of noise? Or, as the clouds pass by, does he climb down onto them, that he may aim his bolt close-range? Why does he hurl at the sea? What charge has he against the waves, the waters, the brimming plains? 405 And if he'd have us avoid the lightning bolt, why won't he make us able to see it coming? If he meant to burn us to death all unawares. why thunder up there, to warn us out of the way? Why send in darkness first, and rumble and roar? 410 And could you believe he'd throw in many directions at once? Or venture to say it never occurs that more than one bolt falls at a given time? But it happens again and again, and must be so: just as it rains and rains in many places. 415 so, many thunderbolts fall at a given time. And why does he shatter the holy shrines of gods with his deadly lightning-even his own great temples? Why break up the gods' fine idols, and deface great works of art, his images, with mad wounds? 420 Why hit high spots so often? Why do we find countless signs of his fire on mountaintops?

These facts, now, make it easy to understand what the Greeks call, simply, "presters" (water spouts)-how from above they drop down onto the sea. 425 For it happens sometimes that, like a descending column, one drops from sky to sea; the waters around see the madly, stirred by wildly circling winds, and any vessel that may then be caught in that mêlée is troubled and in great danger. 430 This happens whenever a strong wind, moving fast, can't quite break through a cloud, but thrusts it down from sky to sea, just like a descending column, slowly, as if a fist and arm up there were punching, pressing, stretching it toward the waves. 435 When it bursts, the full force of that wind breaks out over the water and makes weird, seething waves.

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For a spinning spiral of wind descends and stretches the cloud, an elastic substance, out with it; once it has pressed this cloud mass down to the surface, that wind swoops onto the water, and stirs the sea into a maelstrom of roaring, raging waters. And sometimes, too, a whirlwind wraps itself in clouds by gleaning atoms of cloud from air, and then drops out of the sky just like a "prester." When this has dropped to the earth and broken up, it vomits a mass of spiraling, high-speed wind. As a rule this happens rarely, for on land mountains are bound to block it; hence, it's viewed more often where sea and sky stretch wide and clear.

Clouds grow when many atoms, flying high in the reaches of heaven, all at once form unionrougher atoms, which, though by smallest barbs entangled, still may catch and hold each other. At first, they build the fabric of small clouds; later these catch each other and form groups and with their joining, grow, and ride the winds, until at last a savage storm is born. It happens too with mountaintops: the nearer they are to the sky, the more their peaks will always be shrouded in a coarse, dark wrack of cloud. This is because, when clouds first start to form, too thin as yet for eye to see, the winds carry and force them against the mountaintops. Once there, they join to form a greater mass and denser; now they are visible, and we seem 14 **b** 3 to see them surging from mountain peak toward heaven For that upper air is windy and wide, we learn from fact and experience when we climb high mountains, Further, that Nature lifts atoms from all the sea 5214 by thousands is clear from clothes hung out on shore: moisture clings to them and they soak it up. : 19 C Hence, still clearer, may countless atoms rise from the salt and restless sea to augment the clouds: all water is kin, and follows a kindred pattern.  $0.93^{4}$ · AS Further, from every river and from earth itself we see warm vapors and clouds arise: 1900 14 they float from here upward like breath expelled, and with their darkness curtain the sky, and build, 🦗 little by little conjoined, tall towering clouds. a de la compañía de la There's pressure, too, from the tides of star-clad ether, - 16 A. compressing clouds to a curtain under the sky. The atoms that build our clouds and floating fogs

and isn't bronze joined to bronze by pale-grey lead? How many others, now, could be found? What, then? 1080 You don't really need these long and complex proofs, and I don't need to expend all this vast effort; it's better to tell much briefly, in few words. Things whose fabrics show opposites that match. one concave where the other is convex. 1085 and vice versa, will form the closest union. Others, too, could be coupled and held fast by a system of interlocking hooks and eyes; this is most probably true of iron and magnet. Now, what is the cause of disease, or, whence arising 1090 can violent illness suddenly blow up death

and disaster for humankind and hordes of beasts? Let me explain: to begin, I showed above that atoms of many things give life to us; their opposites, too, cause of disease and death. 1005 must fly by thousands. When they chance to rise and trouble the sky, the air becomes diseased.<sup>4</sup> And all this mass of pestilence and disease comes either from elsewhere. floating like clouds and fogs through skies above us, or rises many times 1100 from earth itself, when it turns damp and putrid. assaulted out of season by sun and rain. Don't you see too how people, traveling far from home and country, suffer from change of climate and water, because things are so new and strange? 1105 How do we think that British climate differs from Egypt's, where the world's wheel limps along; how different the climate of Pontus from Cadiz. and on, where men are black, kiln-burned in color. When we remark that all these four are different. 1110 with their four winds and their four heavenly zones. we note that men, too, widely differ in build and color and suffer diseases tribe by tribe. There's elephantiasis: this occurs in Egypt along the Nile, midway, and nowhere else. 1115 Attica suffers from gout; there's eye-disease in the Argolid<sup>5</sup>; one place attacks one part and one, another: the cause is different air. Thus when an atmosphere not native to us shifts, and a dangerous air mass starts advancing, 1120 as clouds creep over slowly and compel all heaven to darkness and change where they move in,

4. The idea that diseases, especially those of epidemic character, were caused by foul air

(miasma) was common in antiquity.

5. The northeast section of the Peloponnesus.

so, when that atmosphere comes into ours, it spoils and renders it alien like itself. Well then, this fresh disaster and disease 1125 drops on our waters or settles on our grain. or other fodder of beasts and food of man, or even remains suspended in the air. and when we inhale these now commingled airs. our bodies perforce absorb disease as well. 1130 In similar fashion, too, sometimes distemper strikes cattles, or "wind"6 the sluggish, bleating sheep. Nor does it matter whether we come to spots unhealthy for us and change the air that clothes us, or nature herself brings pestilent atmosphere 1135 to us, or something we never used to have, that, coming new upon us, may do us harm.

Disease like this, one time, a tide of death, poisoned the very fields in Cecrops-land,<sup>7</sup> emptied the streets, drained Athens of her people. 1140 Starting deep within Egypt's bounds, it came by stages across large air and open sea to settle at last on all Pandion's people.<sup>8</sup> Then in their thousands men fell sick and died. They first showed symptoms of headache and of fever, 1145 with both eyes bloodshot, watering, and bright. The lining of the throat exuded dark blood, and the larvnx was blocked and closed by ulcers: blood trickled from the tongue, voice of the soul; it was weak and painful, sluggish, rough to touch. 1150 The infection then pushed down the throat and filled the chest, and flowed on into the patient's heart; at that point, all his hold on life gave way. When he exhaled, his breath came out foul-smelling. with a stench like carrion flesh tossed out to rot. 1155 Next, all his mental powers failed, and all his body grew weak, for death was close at hand. The pains were unbearable; agonizing fears went ever with them; the patient moaned and groaned. A cough that often persisted day and night, 1160 endlessly racking and wrenching limb and sinew. left the exhausted sufferer drained of strength. And yet one could not observe excessive heat or feverishness on any body-surface;

6. This is a guess at the meaning of *aegror*, a word that occurs only here. The Latin itself means only "pain" or "illness." Bailey translates "distemper." "Wind" is listed in Webster as a disease of sheep. 7. Attica. 8. The Athenians. Pandion was a mythical, king of Athens. The description here is of the famous plague that struck Athens in 430 B.C.. Lucretius with amazing accuracy renders into Latin verse the description given by Thucydides, 2.47–52.

rather, the patient's skin was cool to touch. 1165 Still his whole body was red and deeply ulcered. as when ervsipelas spreads over all the limbs. But the inner parts were inflamed, clear to the bone; the stomach within burned like a flaming furnace. Nothing was light or thin enough to bring 1170 relief to the patient: "just cool and fan him always." Some, burning with fever, hurled their naked bodies into the ice-cold waters of rivers and drowned. Many fell head-first into the depths of wells. and as they reached the water, their mouths gaped open. 1175 An endless, parching thirst engulfed their flesh, and made a cloudburst seem a mere light shower. Their sufferings knew no rest: their bodies lav exhausted. Doctors muttered, shook, fell dumb, as over and over those staring eves turned toward them. 1180 infected, burning with fever, never asleep. Men showed many other fatal symptoms, too: a mind deranged by agony and by fear, a grim expression, the madman's piercing stare, the hearing impaired, ears full of roaring sound, 1185 the breathing rapid, or slow to come, and labored, the neck all wet and shiny with streaming sweat, the spittle in tiny droplets, saffron-colored, and salty, hawked from the throat with hard, hoarse coughs. In the hands, the tendons cramped, the fingers trembled: 1100 at the feet, a chill began, and bit by bit, soon spread. Then as the final moment came, the nose was pinched, the tip of the nose was sharp. eves hollow, temples sunk, skin cold and taut, lips in a snarling grin, brow tight and swollen; 1 1 9 5 not long thereafter they lay still and dead. In general, when the sun's eighth lamp grew warm, sometimes the ninth, they rendered up their lives. If any, as men say, "escaped dark death", they also later wasted away and died 1200 with suppurating ulcers and black feces: or chronic headaches followed by a rush of noxious blood that passed through blocked-up nostrils: this way, men's life and substance all flowed out. If any escaped this hemorrhage of foul blood, 1205 still the disease would pass on into muscle and organ, down to the genitals themselves. Some, burdened by terror of the doors of death, lived by excision of the virile organ: some with the loss of hand or foot remained 1210

alive, and some by sacrificing eyes: so bitter a fear of death had come upon them. Some even suffered total amnesia. and couldn't even remember who they were. And though on the ground unburied bodies lay 1215 one on another, yet bird and animal-kind would all shy off, to avoid the nauseous stench, or if they'd eaten, at once fell sick and died. In general, though, no bird was rash enough to appear, those days, no grim wild animal 1220 came out of the woods: they, too, were largely sick and dving. First of all, the faithful dogs, collapsing on every street, lay gasping, panting: the deadly disease racked them and took their lives. By thousands, the dead were rushed to the grave, unmourned. 1225 No therapy was proposed that worked for all. For what gave one the right to roll the air of life on his lips, and gaze on heavenly zones, to others was fatal and brought a prompt demise. Pathetic here, and bound to rouse profound 1220 compassion, was this: when anyone observed himself infected, as though condemned to die, he lost his courage and, full of grief, lay down to wait for death: right there, he lost his life. You see, the infection never flagged: contagious, 1235 greedy, it passed from one man to another, as if twixt wool-clad flocks and cow-horned kind. And this above all else piled death on death. Yes. all who shrank from visiting their sick from too great lust for life and fear of death 1240 were later punished: they died disgraced, forgotten, with none to help them, victims of neglect. But those who stayed on hand died by contagion and of the labors forced on them by conscience and the sufferers' wistful and heart-rending pleas. 1245 This way all truly good men met their death.9

one here, one there, all vying to entomb their own, they came home tear-stained, sick at heart; thereafter, many took to their beds in grief. Such were the times, no man could be discovered untroubled by death or sorrow or disease.

Further, every shepherd and herdsman now, likewise the brawny hand, guide of the plow,

9. After this line, an indeterminate number of lines have been lost.

fell sick, and in dark huts their bodies lay huddled, ragged, diseased, consigned to death. 1255 Over dead babies one might well have seen the lifeless bodies of parents, and again on mother and father the child vield up his life. In no small part the affliction flowed from farm to city: infected farmers brought it there. 1260 coming in sickly hosts from every quarter. They filled the squares and houses: packed together. they died in windrows as the press grew worse. Many, prostrate by thirst, crawled through the streets and lay where they fell, close by the water fountains. 1265 dead, cut off from the waters that seemed so sweet. And everywhere through the public parks and streets people lay sick and dying; one could see their tattered, rotting flesh, bandaged with rags, wasting away, their bodies skin and bones, 1270 already half-buried in pus-filled sores and filth. And death besides had filled each holv shrine of the gods with lifeless bodies: the sacred precints were everywhere loaded with corpses unremoved where temple guards had packed the grounds with strangers. 1275 For now, to scruple and fear of god, men paid small heed; their present agonies prevailed. Nor was the mode of burial maintained that people of Athens hereto had always practiced. for every man was shaken and filled with fear; 1280 each mourned and buried his own as best he could. Shortage of time and means called forth much horror; people would lay their kindred atop the pyres others had put together, and with loud cries would thrust in the torch; often much blood was shed 1285 as men fought rather than leave their dead unguarded.

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