Episode Twenty-Four: The Swerve Part One: As A Producing Force of Nature

Post by “Cassius” of June 17, 2020 at 3:33 PM

Welcome to Episode Twenty-Four of Lucretius Today.

I am your host Cassius, and together with my panelists from the EpicureanFriends.com forum, we'll walk you through the six books of Lucretius' poem, and discuss how Epicurean philosophy can apply to you today. Be aware that none of us are professional philosophers, and everyone here is a self-taught Epicurean. We encourage you to study Epicurus for yourself, and we suggest the best place to start is the book, "Epicurus and His Philosophy" by Canadian professor Norman DeWitt.

Before we start, here are three ground rules.

First: Our aim is to bring you an accurate presentation of classical Epicurean philosophy as the ancient Epicureans understood it, which may or may not agree with what you here about Epicurus at other places today.

Second: We aren't talking about Lucretius with the goal of promoting any modern political perspective. Epicurus must be understood on his own, and not in terms of competitive schools which may seem similar to Epicurus, but are fundamentally different and incompatible, such as Stoicism, Humanism, Buddhism, Taoism, Atheism, and Marxism.

Third: The essential base of Epicurean philosophy is a fundamental view of the nature of the universe. When you read the words of Lucretius you will find that Epicurus did not teach the pursuit of virtue or of luxury or of simple living as ends in themselves, but rather the pursuit of pleasure. From this perspective it is **feeling** which is the guide to life, and not supernatural gods, idealism, or virtue ethics. And as important as anything else, Epicurus taught that there is no life after death, and that any happiness we will ever have must come in THIS life, which is why it is so important not to waste time in confusion.

Now let's join the discussion with today's text:

Daniel Brown 1743 Edition:

But some object to this, fools as they are, and conceive that simple matter cannot of itself, without the assistance of the gods, act so agreeably to the advantage and convenience of mankind, as to change the seasons of the year, to produce the fruits, and do other things which

Pleasure, the deity and great guide of life, persuades men to value and esteem. It could not induce us to propagate our race, by the blandishments of tender love, lest the species of mankind should be extinct, for whose sake they pretend the gods made all the beings of the world; but all conceits like these fall greatly from the dictates of true reason. For though I were entirely ignorant of the rise of things, yet from the very nature of the heavens, and the frame of many other bodies, I dare affirm and insist that the nature of the world was by no means created by the gods upon our account, it is so very faulty and imperfect; which, my Memmius, I shall fully explain. But now let us explain what remains to be said of motion.

And here, I think, is the proper place to prove to you that no being can be carried upwards or ascend by any innate virtue of its own, lest by observing the tendency of flame you should be led into a mistake. For flame, you know, is born upwards, as well when it begins to blaze as when it is increased by fuel; so the tender corn and lofty trees grow upwards. Nor when the flames aspire and reach the tops of houses, and catch the rafters and the beams with a fierce blaze, are you to suppose they do this by voluntary motion, and not compelled by force. 'Tis the same when the blood gushes from a vein, it spouts bounding upwards, and sprinkles all about the purple stream. Don't you observe likewise with what force the water throws up the beams and posts of wood? The more we plunge them in, and press them down with all our might, the more forcibly the stream spews them upwards, and sends them back; so that they rise and leap up at least half their thickness above the water.

And yet I think, we make no question that all things as they pass through empty void are carried naturally down below. So likewise the flame rises upwards, being forcibly pressed through the air, though its weight, by its natural gravity, endeavors to descend. Don't you see the nightly meteors of the sky flying aloft, and drawing after them long trains of flame, which way soever Nature yields a passage? Don't you see also the stars and fiery vapors fall downwards upon the Earth? The Sun too scatters from the tops of heaven his beams all round, and sows the fields with light: Its rays therefore are downward sent to us below. You see the lightning through opposing showers fly all about; the fires burst from clouds, now here now there engage, at length the burning vapor falls down upon the ground.

I desire you would attend closely upon this subject, and observe that bodies when they are carried downward through the void in a straight line, do at some time or other, but at no fixed and determinate time, and in some parts of the void likewise, but not in any one certain and determinate place of it, decline a little from the direct line by their own strength and power; so, nevertheless, that the direct motion can be said to be changed the least that can be imagined.

If the seeds did not decline in their descent, they would all fall downwards through the empty void, like drops of rain; there would be no blow, no stroke given by the seeds overtaking one another, and by consequence Nature could never have produced any thing.

But if any one should suppose that the heavier seeds, as they are carried by a swift motion through the void in a straight line, might overtake and fall from above upon the lighter, and so

occasion those strokes which produce a genial motion by which things are formed, he is entirely out of the way, and wanders from the rule of true reason. Indeed, whatever falls downward through the water, or through the air, must necessarily have its speed hastened in proportion to its weight, and for this reason, because the body of water and the thin nature of the air cannot equally delay the progress of every thing that is to pass through it, but must be obliged to give way soonest to heavy bodies. But, on the contrary, mere empty space cannot oppose the passage of any thing in any manner, but must, as its nature requires, continue for ever to give way: Therefore all things must be carried with equal force through a void that cannot resist, though their several weights be unequal, so that the heavier bodies can never fall from above upon the lighter, nor occasion those blows which may change their motions, and by which all things are naturally produced.

It follows then that the seeds do every now and then decline a little from a direct line in their descent, though the least that can be imagined, lest we should think their motion were oblique, which the nature of things refutes. For we see this is plain and obvious, that bodies by their natural gravity do not obliquely descend, when they fall swiftly from above through a void, which you may discovery by your eyes. But that nothing declines in its descent ever so little from a direct line, who is so sharp-sighted as to distinguish?

Munro:

But some in opposition to this, ignorant of matter, believe that nature cannot without the providence of the gods, in such nice conformity to the ways of men, vary the seasons of the year and bring forth crops, ay and all the other things, which divine pleasure, the guide of life, prompts men to approach, escorting them in person and enticing them by her fondlings to continue their races through the arts of Venus, that mankind may not come to an end.Now when they suppose that the gods designed all things for the sake of men, they seem to me in all respects to have strayed most widely from true reason. For even if I did not know what first-beginnings are, yet this, judging by the very arrangements of heaven, I would venture to maintain, that the nature of the world has by no means been made for us by divine power: so great are the defects with which it stands encumbered. All which, Memmius, we will hereafter make clear to you: we will now go on to explain what remains to be told of motions.

Now methinks is the place herein to prove this point also, that no bodily thing can by its own power be borne upwards and travel upwards; that the bodies of flames may not in this manner lead you into error. For they are begotten with an upward tendency, and in the same direction receive increase, and goodly crops and trees grow upwards, though their weights, so far as in them is, all tend downwards. And when fires leap to the roofs of houses and with swift flame lick up rafters and beams, we are not to suppose that they do so spontaneously without a force pushing them up.Even thus blood discharged from our body spurts out and springs upon high and scatters gore about. See you not too with what force the liquid of water spits out logs and

beams? The more deeply we have pushed them sheer down and have pressed them in, many of us together, with all our might and much painful effort, with the greater avidity it vomits them up and casts them forth, so that they rise and start out more than half their length.

And yet methinks we doubt not that these, so far as in them is, are all borne downwards through the empty void. In the same way flames also ought to be able, when squeezed out, to mount upward through the air, although their weights, so far as in them is, strive to draw them down. See you not too that the nightly meteors of heaven as they fly aloft draw after them long trails of flames in whatever direction nature has given them a passage? Do you not perceive stars and constellations fall to the earth? The sun also from the height of heaven sheds its heat on all sides and sows the fields with light; to the earth, therefore, as well, the sun's heat tends. Lightnings also you see fly athwart the rains: now from this side now from that, fires burst from the clouds and rush about; the force of flame falls to the earth all round.

This point too, herein we wish you to apprehend: when bodies are borne downwards sheer through void by their own weights, at quite uncertain times and uncertain spots they push themselves a little from their course: you just and only just can call it a change of inclination.

If they were not used to swerve, they would all fall down, like drops of rain, through the deep void, and no clashing would have been begotten nor blow produced among the first beginnings: thus nature never would have produced aught. But if haply any one believes that heavier bodies, as they are carried more quickly sheer through space, can fall from above on the lighter and so beget blows able to produce begetting motions, he goes most widely astray from true reason. For whenever bodies fall through water and thin air, they must quicken their descents in proportion to their weights, because the body of water and subtle nature of air cannot retard everything in equal degree, but more readily give way, overpowered by the heavier: on the other hand empty void cannot offer resistance to anything in any direction at any time, but must, as its nature craves, continually give way; and for this reason all things must be moved and borne along with equal velocity though of unequal weights through the unresisting void.

Therefore heavier things will never be able to fall from above on lighter nor of themselves to beget blows sufficient to produce the varied motions by which nature carries on things. Wherefore again and again I say bodies must swerve a little; and an yet not more than the least possible; lest we be found to be imagining oblique motions and this the reality should refute.For this we see to be plain and evident, that weights, so far as in them is, cannot travel obliquely, when they fall from above, at least so far as you can perceive; but that nothing swerves in any case from the straight course, who is there that can perceive?

Bailey:

Yet a certain sect, against all this, ignorant [that the bodies] of matter [fly on of their own accord, unvanquished through the ages,] believe that nature cannot without the power of the gods, in ways so nicely tempered to the needs of men, change the seasons of the year, and create the crops, and all else besides, which divine pleasure wins men to approach, while she

herself, the leader of life, leads on and entices them by the arts of Venus to renew their races, that the tribe of mankind may not perish. But when they suppose that the gods have appointed all things for the sake of men, they are seen in all things to fall exceeding far away from true reason. For however little I know what the first-beginnings of things are, yet this I would dare to affirm from the very workings of heaven, and to prove from many other things as well, that the nature of the world is by no means made by divine grace for us: so great are the flaws with which it stands beset. And this, Memmius, I will make clear to you hereafter. Now I will set forth what yet remains about the movements.

Now is the place, I trow, herein to prove this also to you, that no bodily thing can of its own force be carried upwards or move upwards; lest the bodies of flames give you the lie herein. For upwards indeed the smiling crops and trees are brought to birth, and take their increase, upwards too they grow, albeit all things of weight, as far as in them lies, are borne downwards. Nor when fires leap up to the roofs of houses, and with swift flame lick up beams and rafters, must we think that they do this of their own will, shot up without a driving force. Even as when blood shot out from our body spirts out leaping up on high, and scatters gore. Do you not see too with what force the moisture of water spews up beams and rafters? For the more we have pushed them straight down deep in the water, and with might and main have pressed them, striving with pain many together, the more eagerly does it spew them up and send them back, so that they rise more than half out of the water and leap up.

And yet we do not doubt, I trow, but that all these things, as far as in them lies, are borne downwards through the empty void. Just so, therefore, flames too must be able when squeezed out to press on upwards through the breezes of air, albeit their weights are fighting, as far as in them lies, to drag them downwards. And again, the nightly torches of the sky which fly on high, do you not see that they trail long tracts of flames behind towards whatever side nature has given them to travel? do you not descry stars and constellations falling to earth? The sun too from the height of heaven scatters its heat on every side, and sows the fields with his light; ’tis towards the earth then that the sun’s heat also tends. And you descry, too, thunderbolts flying crosswise through the rain; now from this side, now from that the fires burst from the clouds and rush together; the force of flame everywhere falls towards the earth.

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

But if perchance any one believes that heavier bodies, because they are carried more quickly straight through the void, can fall from above on the lighter, and so bring about the blows which can give creative motions, he wanders far away from true reason. For all things that fall through the water and thin air, these things must needs quicken their fall in proportion to their

weights, just because the body of water and the thin nature of air cannot check each thing equally, but give place more quickly when overcome by heavier bodies. But, on the other hand, the empty void cannot on any side, at any time, support anything, but rather, as its own nature desires, it continues to give place; wherefore all things must needs be borne on through the calm void, moving at equal rate with unequal weights.

The heavier will not then ever be able to fall on the lighter from above, nor of themselves bring about the blows, which make diverse the movements, by which nature carries things on. Wherefore, again and again, it must needs be that the first-bodies swerve a little; yet not more than the very least, lest we seem to be imagining a sideways movement, and the truth refute it. For this we see plain and evident, that bodies, as far as in them lies, cannot travel sideways, since they fall headlong from above, as far as you can descry. But that nothing at all swerves from the straight direction of its path, what sense is there which can descry?

Post by “Cassius” of June 17, 2020 at 3:35 PM

As we discuss the swerve there is much of interest in this Sedley article on Determinism:

1. The Swerve

A few facts are, I hope, uncontroversial enough to be set out without defence. Epicurus inherited Democritus' atomic system, but modified it in a number of respects. In particular, he so vehemently objected to its rigidly deterministic laws as to postulate a minimal 'swerve' (παρέγκλισις) in the motion of atoms, occurring at no fixed place or time — a doctrine which does not feature in his meagre surviving writings but is nonetheless amply attested as his; and defended on his behalf by Lucretius (II 216-93). The swerve (a) enables atoms falling through space at equal speed in parallel lines to collide occasionally and initiate cosmogonic patterns of motion; and (b) somehow or other serves as a necessary condition for the behavioural autonomy of animate beings — a power often identified as 'free will'.

During the podcast, Martin and I in particular discuss Sedley's contention as to when the swerve was developed in Epicurus' thinking (early or later) as referenced here:

accuracy (Lucretius II 246-50).

I do not propose to expend much discussion on the swerve's cosmogonical function (Lucretius II 216-42), which I suspect to be a problem dreamed up with a preconceived solution in mind. Chains of atomic collisions in extra-cosmic space could have quite adequately been explained by the lateral intrusion of one or more atoms from elsewhere, despatched, say, by the break-up of a nearby world. The question of how such collisions ever started in the first place would not arise, given the infinity of past time and past worlds. That is, indeed, the view strongly implied by the *Letter to Herodotus* and the *Letter to Pythocles*,[4] the physical epitomes which Epicurus wrote when he had already worked out his main cosmological views in Books I-XIII of his *On nature*. Since these two works also contain no hint of the swerve doctrine, the likelihood is that it was his later work on psychology, apparently in the closing books of the thirty-seven book magnum opus, that led him to the innovation, and that it was only then grafted onto the existing cosmological scheme.[5]

File

Sedley: "Epicurus' Refutation of Determinism"

1983 Paper which is the one of the best treatments of Epicurus' view of the Free Will / Agency / Determinism issue available.

Cassius
June 3, 2020 at 8:40 AM

Post by “Cassius” of June 27, 2020 at 9:18 AM

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