

Episode Fifty-One - The Workings of Images

Post by "Cassius" of December 24, 2020 at 2:09 PM

Welcome to Episode Fifty-One 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.

For anyone who is not familiar with our podcast, please check back to [Episode One](#) for a discussion of our goals and our ground rules. If you have any question about that, please be sure to contact us at Epicureanfriends.com for more information.

In today's podcast we will discuss the workings of images, and we will cover approximately Latin lines 110 - 229.

Munro Notes

110-128: learn now how fine these images are: and first let me remind you how exceedingly minute first-beginnings are: think of the smallest animalcule, then of its heart or eye, then of the atoms which form its soul: what is their size? touch again a strong-scented herb with the tips of two fingers: what an amount of smell it emits! [what then must be the size of the atoms of smell? from all this you may conceive how thin these images or idols may be, and yet consist of material atoms:] such then fly about on all hands unseen unfelt.

129-142: besides these images which come front things, there are others which form in the air of themselves and present the outlines of all kinds of shapes, giants mountains rocks beasts.

113-175: images stream incessantly from the surfaces of all things: some things they pass through, by others they are broken; from others, at once hard and bright, they are reflected back: they stream as constantly from things, as light from the sun, so that as soon as a mirror is turned to a thing, its image appears in it at once: often too the sky in a moment is overcast with thick clouds: what a multitude then of these thin images must in an instant be shed from them, to allow of these being seen by us!

176-229: the velocity with which these images travel is enormous: light things made of fine atoms often travel very swiftly, as sunlight; it is natural then that these images should do the same; of which too there is a constant succession one following on the other like light or heat

from the sun : again these images proceed from the very surface of things and should therefore travel more swiftly than light: a proof of the prodigious swiftness of these images is this: put water in the open air, and at once all the stars of heaven are reflected in it. As images come from all things to the sight, so do things producing smell taste sound and the like; so that all the senses are similarly moved.

Browne 1743

There are therefore tenuous and fine shapes of the same figure with the things themselves, which, though they cannot singly be distinguished by the sight, yet being reflected, and swiftly and constantly repelled from the smooth plane of the glass, become visible, nor can any other reason be so properly offered why forms so like the things are returned to us. And now conceive, if you can, of what a tenuous and subtle nature an image consists, and for this reason, in the first place, because the seeds of things are so much beyond the reach and discovery of our senses, and are infinitely less than those bodies that escape the observation of the most curious eye; as a proof how subtle the first principles of things are, attend to these short observations. And first there are animals so exceeding small, that one third part of them cannot possibly by any means be discovered. What are you to conceive of the bowels of these creatures? Of their little hearts and eyes? What of their members? What are you to think of their limbs? How small are they? What besides of the seeds which compose the soul and mind, don't you imagine how subtle and minute they are? Besides, herbs that exhale a sharp smell from their bodies, such as all-heal, bitter wormwood, strong southernwood, and four centaury, if you shake any of these ever so lightly you may be sure many particles fly off, and scatter every way, but without force, and too weak to affect the sense; yet how small and subtle are the images that are formed from these, no one can conceive or express.

But lest you should think that the images that fly off the surface of bodies are the only things that wander abroad, there are other shapes that are fashioned of their own accord, and are produced in the lower region we call the air; these are framed in various manners, are carried upward, and being very subtle and less compact in their contexture, are ever changing their figure, and assume all variety of forms. Thus we see the clouds sometimes thicken in the sky, darkening the serene face of the heavens, and wounding the air by violence of their motion; now the shape of giants seem to fly abroad, and project their shadows all round; and then huge hills, and rocks torn from the mountaintop, are born before the sun, and hide his light. Others again advance and represent the shape of monsters wandering through the sky. Now learn in how easy and swift a manner these images are produced; how they continually fly and fall off from the surface of bodies; for there is always a store of forms upon the outside of things ready to be thrown off.

These, when they light upon some things, pass through them, as a garment for instance; but when they strike upon sharp rocks, or upon wood, they are immediately broken and divided, so that no image can be reflected; but when they are opposed by dense and polished bodies, such as looking-glass, then nothing of this happens; for they can neither pass through this as

through a garment, nor are they divided before the glass preserves their figure perfect and entire. Hence it is that these forms are presented to our sight, and place a thing ever so suddenly, and in a moment of time, before the glass, and the image instantly appears. So that you find there are subtle textures of things, and subtle images continually flowing from the surface of bodies; and therefore many of these forms are produced in a short space of time, and may be justly said to receive their being from a very swift motion.

And as the sun is obliged to emit many of its rays in an instant, that the whole air might be full of light, so many images of things must needs be carried off in the smallest point of time, and scattered every way abroad; for place your glass in what manner you please, the things appear in the same color and figure they really are. So often, when the face of the sky is most serene and bright, it becomes on all sides black and horrid of a sudden, that you would think the white body of darkness had left the regions below, and filled the wide arch of heaven, so dreadful does the night appear from driving clouds, and scatters gloomy terror from above, but how small in comparison of these clouds are the images of things no one can conceive or express.

And now, with how swift courage these images are carried on, how suddenly they make their passage through the air, how they outstrip dull time, wherever by various motion they intend their way, I choose in sweetest numbers than in tedious verse to show: As the swan's short song is more melodious than the harsh noise of cranes, scattered by winds through all the air. First then, we observe that light things that are formed of small particles, are very swift in their motion; of this sort are the rays and heat of the sun, because they are composed of very minute seeds which are easily thrust forward, as it were, through the interjacent air, the following urging on the part that went before; for one beam of light is instantly supplied by another, and every ray is pressed on by another behind. By the same rule, the images may pass through an unaccountable space in a moment of time: first, because there is always a force behind to drive and urge them forward, and then their texture, as they fly off, is so thin and subtle, that they can pierce through any bodies, and, as it were, flow through the air that lies between.

Besides, if those corpuscles that lie in the inward parts of bodies are discharged from above down upon the earth, such as the light and heat of the sun; if these, we observe, descend in a point of time, and spread themselves through all the expansion of the air, and fly over the sea, the Earth, and the upper regions of the heavens; if these are diffused with such wonderful celerity, what shall we say? Those particles that are always ready upon the utmost surface of things, when they are thrown off, and have nothing to obstruct their motions, don't you see how those may fly swifter, and go further, and pass through a much greater space in the same time than the beams of the sun take up to make their way through? Another notable instance which fully proves with how swift a motion the images are carried on is this: as soon as a bowl of clear water is placed in the open air, in starlight night, the shining stars are seen twinkling in the still water; don't you see therefore in what point of time the images descend upon the earth from the upper regions of the air? Again then, and again, you must allow that particles are

perpetually flowing from the surface of bodies, which present themselves to our eyes and strike our sight: from some bodies a train of smells are always flying off, so cold is emitted from the rivers, heat from the sun, a salt vapor from the water of the sea that eats through walls along the shore, and sounds are always flying through the air. Lastly, as we walk upon the strand a salt taste offends our mouth; and when we see a bunch of wormwood bruised, the bitterness strikes upon the palate. So plain it is that something is continually flowing off from all bodies, and is scattered all about; there is no intermission, the seeds never cease to flow, because we still continue to feel, to see, to smell, and hear.

Munro

Now mark, and learn how thin in the nature of an image is. And first of all, since first-beginnings are so far below the ken of our senses and much smaller than the things which our eyes first begin to be unable to see, to strengthen yet more the proof of this also, learn in a few words how minutely fine are the beginnings of all things. First, living things are in some cases so very little, that their third part cannot be seen at all. Of what size are we to suppose any gut of such creatures to be? Or the ball of the heart or the eyes? The limbs? Or any part of the frame? How small they must be! And then further, the several first-beginnings of which their soul and the nature of their mind must be formed? Do you not perceive how fine, how minute they are? Again in the case of all things which exhale from their body a pungent smell, all-heal, nauseous wormwood, strong scented southernwood and the bitter centauries, any one of which, if you happen to [feel it] lightly between two [fingers, will impregnate them with a strong smell] but rather you are to know that idols of things wander about many in number in many ways, of no force, powerless to excite sense.

But lest haply you suppose that only those idols of things which go off from things and no others wander about, there are likewise those which are spontaneously begotten and are formed by themselves in this lower heaven which is called air: these fashioned in many ways are borne along on high and being in a fluid state cease not to alter their appearance and change it into the outline of shapes of every possible kind; as we see clouds sometimes gather into masses on high and blot the calm clear face of heaven, fanning the air with their motion. Thus often the faces of giants are seen to fly along and draw after them a far-spreading shadow; sometimes great mountains and rocks torn from the mountains are seen to go in advance and pass across the sun; and then some huge beast is observed to draw with it and bring on the other storm clouds. Now [I will proceed to show] with what ease and celerity they are begotten and how incessantly they flow and fall away from things. The outermost surface is ever streaming off from things and admits of being discharged: when this reaches some things, it passes through them, glass especially. But when it reaches rough stones or the matter of wood, it is then so torn that it cannot give back any idol. But when objects at once shining and dense have been put in its way, a mirror especially, none of these results has place: it can neither pass through it, like glass, nor can it be torn either; such perfect safety the polished surface minds to ensure. In consequence of this idols stream back to us from such objects; and

however suddenly at any moment you place anything opposite a mirror, an image shows itself: hence you may be sure that thin textures and thin shapes of things incessantly stream from their surface. Therefore many idols are begotten in a short time, so that the birth of such things is with good reason named a rapid one.

And as the sun must send forth many rays of light in a short time in order that all things may be continually filled with it, so also for alike reason there must be carried away from things in a moment of time idols of things many in number in many ways in all directions round; since to whatever part of them we present a mirror before their surfaces, other things correspond to these in the mirror of a like shape and like color. Moreover, though the state of heaven has just before been of unsullied purity, with exceeding suddenness it becomes so hideously overcast, that you might imagine all its darkness had abandoned Acheron throughout and filled up the great vaults of heaven: in such numbers do faces of black horror rise up from amid the frightful night of storm clouds and hang over us on high. Now there is no one who can tell how small a fraction of these an image is, or express that sum in language.

Now mark: how swift the motion is with which idols are borne along, and what velocity is assigned to them as they glide through the air, so that but a short hour is spent on a journey through long space, whatever the spot towards which they go with a movement of varied tendency, all this I will tell in sweetly worded rather than in many verses; as the short song of the swan is better than the loud noise of cranes scattered abroad amid the ethereal clouds of the south. First of all we may very often observe that things which are light and made of minute bodies are swift. Of this kind are the light of the sun and its heat, because they are made of minute first things which are knocked forward so to speak and do not hesitate to pass through the space of air between, ever driven on by a blow following behind; for light on the instant is supplied by fresh light and brightness goaded to show its brightness in what you might call an ever on-moving team. Therefore in like manner idols must be able to scour in a moment of time through space unspeakable, first because they are exceeding small and there is a cause at their back to carry and impel them far forward; where moreover they move on with such winged lightness; next because when emitted they are possessed of so rare a texture, that they can readily pass through any things and stream as it were through the space of air between.

Again, if those minute bodies of things which are given out from the inmost depths of these things, as the light and heat of the sun, are seen in a moment of time to glide and spread themselves through the length and breadth of heaven, fly over sea and lands and flood the heaven, what then of those which stand ready posted in front rank, when they are discharged and nothing obstructs their egress? How much faster, you see, and farther must they travel, scouring through many times the same amount of space in the same time that the sunlight takes to spread over heaven ! This too appears to be an eminently true proof of the velocity with which idols of things are borne along: as soon as ever the brightness of water is set down in the open air, if the heaven is starry, in a moment the clear radiant constellations of ether imaged in the water correspond to those in the heaven. Now do you see in what a moment of

time an image drops down from the borders of heaven to the borders of earth? Therefore, again and again I repeat you must admit that bodies capable of striking the eyes and of provoking vision [constantly travel] with a marvelous [velocity]. Smells too incessantly stream from certain things; as does cold from rivers, heat from the sun, spray from the waves of the sea, that enter into walls near the shore. Various sounds also cease not to fly through the air. Then too a moist salt flavor often comes into the mouth, when we are moving about beside the sea; and when we look on at the mixing of a decoction of wormwood, its bitterness affects us. In such a constant stream from all things the several qualities are carried and are transmitted in all directions round, and no delay, no respite in the flow is ever granted, since we constantly have feeling, and may at any time see smell and hear the sound of anything.

Bailey

Come now and learn of how thin a nature this image is formed. And to begin with, since the first-beginnings are so far beneath the ken of our senses, and so much smaller than the things which our eyes first begin to be unable to descry, yet now that I may assure you of this too, learn in a few words how fine in texture are the beginnings of all things. First of all there are living things sometimes so small that a third part of them could by no means be seen. Of what kind must we think any one of their entrails to be? What of the round ball of their heart or eye? what of their members? what of their limbs? how small are they? still more, what of the several first-beginnings whereof their soul and the nature of their mind must needs be formed? do you not see how fine and how tiny they are? Moreover, whatever things breathe out a pungent savour from their body, panacea, sickly wormwood, and strongly-smelling abrotanum, and bitter centaury; if by chance [you press] any one of these lightly between two [fingers, the scent will for long cling to your fingers, though never will you see anything at all: so that you may know how fine is the nature of the first-beginnings, whereof the scent is formed . . .] . . . and not rather learn that many idols of things wander abroad in many ways with no powers, unable to be perceived?

But that you may not by chance think that after all only those idols of things wander abroad, which come off from things, there are those too which are begotten of their own accord, and are formed of themselves in this sky which is called air; which moulded in many ways are borne along on high, and being fluid cease not to change their appearance, and to turn it into the outline of forms of every kind; even as from time to time we see clouds lightly gathering together in the deep sky, and staining the calm face of the firmament, caressing the air with their motion. For often the faces of giants are seen to fly along and to trail a shadow far and wide, and sometimes mighty mountains and rocks torn from the mountains are seen to go on ahead and to pass before the sun; and then a huge beast seems to draw on and lead forward the storm clouds. Come now, in what swift and easy ways those idols are begotten, and flow unceasingly from things and fall off and part from them, [I will set forth . . .]. For ever the outermost surface is streaming away from things, that so they may cast it off. And when this reaches some things, it passes through them, as above all through glass: but when it reaches

rough stones or the substance of wood, there at once it is torn, so that it cannot give back any idol. But when things that are formed bright and dense are set athwart its path, such as above all is the mirror, neither of these things comes to pass. For neither can they pass through, as through glass, nor yet be torn; for the smoothness is careful to ensure their safety. Wherefore it comes to pass that the idols stream back from it to us. And however suddenly, at any time you will, you place each several thing against the mirror, the image comes to view; so that you may know that from the outermost body there flow off unceasingly thin webs and thin shapes of things. Therefore many idols are begotten in a short moment, so that rightly is the creation of these things said to be swift.

And just as the sun must needs shoot out many rays of light in a short moment, so that the whole world may unceasingly be filled, so too in like manner from things it must needs be that many idols of things are borne off in an instant of time in many ways in all directions on every side; inasmuch as to whatever side we turn the mirror to meet the surface of things, things in the mirror answer back alike in form and colour. Moreover, even when the weather in the sky has but now been most clear, exceeding suddenly it becomes foully stormy, so that on all sides you might think that all darkness has left Acheron, and filled the great vault of the sky; so terribly, when the noisome night of clouds has gathered together, do the shapes of black fear hang over us on high; yet how small a part of these is an idol, there is no one who could say or give an account of this in words.

Come now, with what swift motion the idols are carried on, and what speed is given them as they swim through the air, so that a short hour is spent on a long course, towards whatever place they each strain on with diverse impulse, I will proclaim in verses of sweet discourse rather than in many; even as the brief song of a swan is better than the clamour of cranes, which spreads abroad among the clouds of the south high in heaven. First of all very often we may see that light things made of tiny bodies are swift. In this class there is the light of the sun and his heat, because they are made of tiny first-particles, which, as it were, are knocked forward, and do not pause in passing on through the space of air between, smitten by the blow from those that follow. For in hot haste the place of light is taken by light, and as though driven in a team, one flash is goaded by another flash. Wherefore in like manner it must needs be that the idols can course through space unthinkable in an instant of time, first because it is a tiny cause, far away behind which drives and carries them forward, and after that, in that they are borne on with so swift a lightness of bulk; and then because they are given off endowed with texture so rare that they can easily pass into anything you will, and as it were ooze through the intervening air.

Moreover, when particles of things are given out abroad from deep within, like the sun's light and heat, these are seen to fall in a moment of time and spread themselves over the whole expanse of heaven, and to fly over sea and earth and flood the sky. What then of those things which are ready at once in the forefront? When they are cast off and nothing hinders their discharge, do you not see that they must needs move swifter and further, and course through many times the same expanse of space in the same time in which the rays of the sun crowd the

sky? This, too, more than all seems to show forth truly in what swift motion the idols of things are borne on, that as soon as a bright surface of water is placed beneath the open sky, when the heaven is starry, in a moment the calm beaming stars of the firmament appear in answer in the water. Do you not then see now in how short an instant of time the image falls from the coasts of heaven to the coasts of earth? Wherefore more and more you must needs confess that bodies are sent off such as strike the eyes and awake our vision. And from certain things scents stream off unceasingly; just as cold streams off from rivers, heat from the sun, spray from the waves of the sea, which gnaws away walls all around the shores. Nor do diverse voices cease to fly abroad through the air. Again, often moisture of a salt savour comes into our mouth, when we walk by the sea, and on the other hand, when we watch wormwood being diluted and mixed, a bitter taste touches it. So surely from all things each several thing is carried off in a stream, and is sent abroad to every quarter on all sides, nor is any delay or respite granted in this flux, since we feel unceasingly, and we are suffered always to descry and smell all things, and to hear them sound.

Post by “Cassius” of December 26, 2020 at 12:55 PM

I note that in the prior episode I raised questions about whether (1) the images were themselves composed of "atoms" pushing forward through the space between us and the things we observe, or (2) whether the atoms were simply setting up vibrations in the air that do the traveling. This text today seems to touch on that -- on first reading, it's definitely talking about pushing air, but also in way that seems to indicate that atoms from the surface of objects are traveling too, so maybe they were saying both 1 and 2 ?

Post by “Cassius” of January 2, 2021 at 9:09 PM

Episode Fifty-One of the Lucretius Today Podcast is now available. In today's episode, we begin book four, and start the discussion of "images." As always we invite your comments and suggestions.

<https://www.spreaker.com/episode/42765802>

Post by “Don” of January 3, 2021 at 3:50 PM

I wanted to add my two cents on the "self-generated" images. As soon as I heard that, I immediately thought of the idealist view of the gods. And I agree with [Cassius](#) that these "images" would spontaneously occur from particles at random. And these would arguably be so fine that they would only be perceived by the mind not the physical senses. I don't agree that he's talking about pictures we see in clouds. (*See addendum below)

I also think that Epicurus via Lucretius is adamant about receiving particles *from* bodies to contrast with other philosophers that said vision was possible by something coming from the viewer (like a flashlight).

Addendum: Finished the full episode: Now I'm not so sure about the self-begotten. On second hearing and doing some reading, it seems he might be talking about the images we see in clouds and how we may *see* giants et al but there aren't giants shedding their images for us to see. We are perceiving giants where none exist. This whole thing is more subtle than my perfunctory post let on. But I think it may still have wider implications. I'm going to delve into the Latin a little although I am woefully ill-equipped to say anything about that. Full disclosure there 😊

Addendum 2: Checked Stallings, and, yeah, she does a good job of clearing up the ambiguity in the other translations. It's the faces in clouds. But in Loeb, it also references the section on centaurs and other mythological creatures. So there's more going on with the eidola/simulacra/images/idols here. Looks like an interesting ride coming up in DRN!

Post by “Cassius” of January 3, 2021 at 5:12 PM

[Quote from Don](#)

I also think that Epicurus via Lucretius is adamant about receiving particles *from* bodies to contrast with other philosophers that said vision was possible by something coming from the viewer (like a flashlight).

On this point i read a little from DeWitt on the workings of vision in the podcast today, and you're definitely right in your flashlight comment. DeWitt says Plato and/or Democritus held to that view.

Post by “Cassius” of January 4, 2021 at 9:52 PM

BOOK IV. *Of the Nature of Things.* 65

AND now attend, and observe in short, what *The Cause* Things affect the Mind, and from whence proceed *of Imagination.* those Objects that make an Impression upon it. First then, I say that subtle Images of Things, a numerous Train of them, wander about every Way, and in various Manners. These, as they meet, easily twine and are joined together in the Air, as Threads of Gold or the Web of a Spider; for these are much finer in their Contexture than those Images that strike the Eye and move the Sight. These pierce through the Pores of the Body, and move the subtle Nature of the Mind within, and affect the Sense. Hence it is that we see Centaurs, and the Limbs of Scylla's, and the Heads of Cerberus, and the Shadows of those who have been long since dead, and whose Bones are rotting in the Grave; because Images of all kinds are ever wandering about; some of their own accord are formed in the Air, some are continually flying off from various Bodies, and others rise from these Images mixed together: For it is certain, that the Image of a Centaur never flowed from one that was alive; for there never was such an Animal in Nature; but when the Image of a Horse met by chance with the Image of a Man, it immediately stuck to it, which it easily does, by reason of the Subtily of its Nature and the Fineness of its Texture; and all other monstrous Figures are formed after the same manner. These Images being exceeding light, and easily put in Motion (as I observed before) each of them affects the Mind at one Stroke;

Images of things which never existed can be formed through the air. Probably the most specific reference to this is here is a clip with that reference. This is

(Actually I need to check to see whether this discussion is Episode 52 (not posted as of this writing) or 51)

Post by "Don" of January 4, 2021 at 10:16 PM

So images/idols/eidōlon/simulacra can interact with each other: horse eidōlon + human eidōlon = centaur eidōlon.

I also had second... third... I lost count... thoughts on that self-generated images section from the beginning of Book IV. I saw another few translations at work today. Now I'm wondering if the images are there, in the air, but the reason we see them is because they interact with the clouds. It isn't that the clouds form images/idols/simulacra of their own accord. The cloud takes on an image when an existing image in the air interacts with the cloud then fades away as the image/eidola/simulacra moves on thru the air.

Post by “Cassius” of January 5, 2021 at 5:39 AM

I tend to think that clouds may provide a useful example to discuss but that we should not link this topic to closely to clouds so as to imply that clouds are the only or even a primary example. For the same reason I am concerned that focus on calling them "self-generated images" may be too limiting.

My suspicion is that this subject of particle flows is like eternity and infinity - the implications of this are huge and Epicurus is following the implications much more deeply than we would think of doing today. Those implications will derive from the presumption that all objects are constantly giving off streams of particles in all directions, and that these particles are constantly producing all sorts of results as their streams impact each other and interfere with each other. I think we should indeed be comparing these thoughts with modern optics/physics ideas like interference waves we discuss today. As with the example of clouds, the example of eyes and vision may be a primary example but not at all the only example. Is our understanding of magnetism today as deriving from particle flows really that much different than Epicurus is discussing? Is there really any reason to draw a bright line between our terminology of "energy" and what Epicurus was suggesting (that whatever exists has a real material basis to it)?

We haven't gotten yet to the discussion of magnetism as particle flows but that is going to be directly relevant: <https://archive.org/details/lucret...e/n643/mode/2up>

1743 Commentary on magnetism:

“The Poet, in order to explain the attractive Virtue of this Stone, premises four chief Positions, which though he has proved them already, yet he thinks fit to inculcate again in this Place. 1. That certain Corpuscles are continually flowing off from all Things. 2. That no concrete Body is so solid as not to contain some empty little Spaces. 3. That the Corpuscles that are emitted from Things, do not agree with all Things alike, and in the same manner, and produce not the same Effects on them. 4. That the void little Spaces are not alike in all Things, but differ in Size and Figure, and therefore cannot be fit for all Bodies indifferently. This being premised, he proceeds to explain how the Loadstone attracts Iron, or the Iron is conveyed to the Loadstone. Many Particles (he says) flow from the Loadstone, and dissipate the Air all around it; and thus many void little Spaces are made. But when the Iron is placed within the Sphere of that dissipated Air, there being a great deal of empty Space between that and the Loadstone, the Corpuscles of the Iron leap more freely forward into that Void (for the Seeds of all Bodies fly forward on a sudden into the empty Space) and for that Reason are carried towards the Loadstone. Now they can-

Excerpt from the text:

AND first, Certain Seeds must necessarily flow, be sent out, and continually dispersed abroad, from all Things whatever we see, which must strike upon the Eye, and affect the Sight. From some Bodies a Train of Smells are always flying off. So Cold is emitted from the Rivers; Heat from the Sun; a salt Vapour from the Water of the Sea, that eats through Walls along the Shore; and various Sounds are always flying through the Air. And as we walk upon the Strand, a briny Taste frequently offends our Mouth; and when we see a Bunch of Wormwood bruised, the Bitterness strikes upon the Palate. So plain it is that something is continually flowing off from all Bodies, and is scattered all about. There is no Intermiſſion, the Seeds

This is just a short clip - the whole section is important - we are not just talking about the process of sight.

As we continue through book four and the rest of the book we're going to confront many examples of illusions and phenomena that appear to derive from particle flows, and I think we need to keep a very open mind that his suggestions are not so ridiculous as they might seem. "Action at a distance", of which magnetism is maybe one of the easiest to grasp examples (since we can hold it in our hands so easily) must have an explanation other than magic or divinity, and as I understand the issues even as discussed today, particle flows remain a viable explanation. And if those particle flows we see in magnetism are really just one example of an essentially numberless quantity of particles flowing in all directions at all times, then Epicurus was right in considering this to be a very important subject and not just something for idle speculation.

Post by “Elayne” of January 5, 2021 at 7:15 AM

I am very reluctant to explain away the passage describing images as self arising without an extremely clear indication. I think there is a desire, which I understand, to stretch Lucretius to fit our current evidence... but that doesn't seem like a good idea to me. Imo it is better to pull out the parts which are confusing and don't fit the rest, and leave those questions open. That is what we do in science-- when there is weird data we don't know what to do with, we make note of that. Sometimes later it becomes clear what was going on.

When scientists have given in to the urge to finagle data in order to make it fit the rest, this has caused a delay in understanding what was really happening.

Unless there is some translation error, such that self generated does not mean what we think of today (meaning modern translators need to use a more accurate phrasing), the wording there seems very different from images which form as a result of prior images being merged. That would not be self generated, because the original images arose in the usual way-- anymore than a mule is self generated just because it comes from a donkey and a horse. If Lucretius meant recombined rather than self generated and used confusing language in the original, perhaps it was just sloppy writing-- that doesn't seem very likely, but I'm willing to leave that possibility on the table.

Leaving some of these odd bits unexplained, maybe a list of them, would be useful in case further documents are discovered which elaborate these ideas more clearly.

Post by “Don” of January 5, 2021 at 8:16 AM

One of the key words in the Latin is on line 131:

sponte

<http://www.perseus.tufts.edu/hopper/morph?l...129&i=1#lexicon>

Post by “Cassius” of January 5, 2021 at 8:36 AM

I agree to this extent - that I don't like the term "self-generated" or even "self-arising" and I am not suggesting that they are self-generated even under the suggestions I am making. What this text seems to clearly indicate to me is that due to natural movements of particles just like all others the images become enmeshed in ways that were not generated by an actual object in

the first place, just like any kind of wave is going to be altered by contact with another wave. It's in our minds that we assemble them and believe them to be actual centaurs. I am not sure I even see the issue here or what would need to be left unexplained? Certainly our greater knowledge gives us greater insight as to what particles and waves are ever-present in the "atmosphere" around us, but the basic insight that our senses are interacting with material things that are "flying through space" seems to me to be pretty reasonable(?)

Post by “Joshua” of January 5, 2021 at 9:54 PM

I am inclined to agree with Elayne when it comes to 'stretching the text'---If indeed that is what we are doing, in a fair analysis. A few months ago I read *The Rise and Fall of Alexandria*. I've mentioned it before, but I keep coming back to it because for me the key point I take from it is this; we have an obligation to estimate the value of these early thinkers by considering the context in which they wrote. Take a practical example:

Hippocrates' understanding of internal medicine, and its supposed foundation in the fluctuations of the four 'humors', is so *wrong* that it can be difficult for us to appreciate how much progress he had made toward being right. The men of his age believed, by and large, that disease and health were the sport of the gods. A prayer here, a burnt offering there--throw in a consultation with a witch or an exorcist, when other means fail--that was the best they could hope for. Hippocrates took a more analytical view of things. He thought that disease of the body had its origin in nature, and not the divine. He thought that the course of disease could be traced, from cause to effect, and that with sufficient study these natural processes could be laid bare to the understanding of the human intellect. This early and infantile version of science has in the intervening centuries been clarified, expanded, systematized, subjected to rigor and experimentation--has indeed been reworked almost beyond recognition. *Almost*. But the kernel of the original idea (which was nothing short of a revolution in human understanding, for its time) remains unaltered. The origin of disease is not in caprice and malevolence, not vengeance and anger; it is instead rational and explicable.

There's no shame in Lucretius being 'wrong' from time to time. He got nearly everything of real importance right.

Quote

"But still, what a difference when one lays aside the strenuous believers and takes up the no less arduous work of a Darwin, say, or a Hawking or a Crick. These men are more enlightening when they are wrong, or when they display their inevitable biases, than any falsely modest person of faith who is vainly trying to square the circle and to

explain how he, a mere creature of the Creator, can possibly know what that Creator intends." -Christopher Hitchens

Post by “Don” of January 5, 2021 at 10:45 PM

[Quote from JJElbert](#)

Hippocrates' understanding of internal medicine, and its supposed foundation in the fluctuations of the four 'humors', is so wrong that it can be difficult for us to appreciate how much progress he had made toward being right.

That is a very important statement right there. Well put, [Joshua](#) !

Post by “Elayne” of January 5, 2021 at 11:30 PM

[Quote from Cassius](#)

I agree to this extent - that I don't like the term "self-generated" or even "self-arising" and I am not suggesting that they are self-generated even under the suggestions I am making. What this text seems to clearly indicate to me is that due to natural movements of particles just like all others the images become enmeshed in ways that were not generated by an actual object in the first place, just like any kind of wave is going to be altered by contact with another wave. It's in our minds that we assemble them and believe them to be actual centaurs. I am not sure I even see the issue here or what would need to be left unexplained? Certainly our greater knowledge gives us greater insight as to what particles and waves are ever-present in the "atmosphere" around us, but the basic insight that our senses are interacting with material things that are "flying through space" seems to me to be pretty reasonable(?)

[Cassius](#) , those are two issues:

1) I am saying I do not recommend assuming that the self generated description was about the same thing as where he talks elsewhere about recombinations of images. I can't see any basis for making that assumption-- you'd have to say his self generated language was

misleading if he actually meant recombination, and I am not convinced he was being unclear. If he was unclear, it could be a result of failing to distinguish between images and whatever the "seeds" of the images would be-- but it's uncharacteristic for him to leave out something like that. The little section about self generated images sounded pretty intentional. I think we either take it as written or leave it in a suspense file.

2) Yes, he's making (elsewhere) an analogy about images recombining and then our brains misinterpreting the results as an explanation for our imagination of centaurs and such. He apparently didn't conceive of human imagination being a process which does not actually require something entering the brain from the outside, and this was an inaccurate but fascinatingly creative idea! In the same way, he thought images from outer space passing into the brain caused humans to believe in gods-- he did not know our brains could produce their own sensory cortex content. It's like saying the explanation for hallucinations people have in sensory deprivation tanks would be something passing through the tanks into the brain. It's a valiant attempt to explain complicated neurological processes.

Post by "Cassius" of January 6, 2021 at 12:54 AM

I suspect what we're talking about here is going to clarify as we proceed to talk about more details in the rest of the poem, so I'll just keep an open mind and we'll see where the discussion goes.

[Quote from Elayne](#)

He apparently didn't conceive of human imagination being a process which does not actually require something entering the brain from the outside,

I think this comment indicates what we can look at as we proceed to clarify things. But already I would say I would not approach it from the "didn't conceive" perspective because it seems more likely to me that he certainly would have entertained that possibility (for example is it not inherent in Plato's theory of "remembering"?) I would think it's more likely that what we're dealing with is something more along the lines of the statement to the effect that "The gods would have had no pattern either" as one of his arguments as to why the universe is not supernaturally created. He did seem to stress that we have to have experiences / stimuli in order to get our minds working in the first place.

Possibly he is making the very broad point that even imagination is ultimately the mind recombining past experiences in different ways so that in effect it is true that everything going on in our minds is our processing and recombining of past observations / stimulations that

we've received since birth, mixed with anything that is innate.

I think here in this too about Cicero's comment to Cassius Longinus joking/ridiculing that maybe he was thinking about Cassius because his spectre floated into his mind.... Whatever is going on here Epicurus must have been understood to have emphasized the importance of outside stimuli in a way that we are finding counterintuitive -- or maybe this is another example of him looking at things in ways so different than we are conditioned to do that we don't fully recognize what he was saying.

No doubt we're going to conclude that significant aspects of what he was saying were "wrong" according to our current knowledge, but I'd also bet that if we consider broadly the point that he was making it's likely we're going to find that he had good reasons for his positions.

I have never been one to accept explanations of Epicurus' views simply because they are "convenient" to other parts of his theories, but I do think in this case we have a very convenient use for the discussions involved in the Centaur issue. It is probably helpful - and even probably true - that people can get very strongly convinced that they see or hear certain things that others can't validate - and in fact in most cases they can't themselves validate by future observations. So long as we insist firmly that ultimately things MUST be validated by ongoing observations that are "verifiable," then it's probably helpful in many ways to be open to the possibility that "the light plays tricks on us" or that phenomena such as the illusions we are about to discuss in the rest of book 4 can in fact appear to us to be something real when in fact it is not.

There are many aspects of religion and views of the gods that I think Epicurus would be loathe to accommodate or "humor," but there are also the kind of innocent and naive assertions that some people make that they "saw something" that might be explainable to them by explaining the effects and possibilities of "images" - and without stretching the truth as to what "can" happen. It would probably be easy to analogize the tricks our eyes play on us in things like the mirages of pools of water in the desert, and I doubt it would be far off to describe that as an interplay of images "flying through the air" in ways we don't expect. If I remember correctly we'll have a lot more occasion to entertain the possibility of using images to explain false views of the gods and the rise of religion in the material upcoming in book 5.

I think this will clarify as we proceed and I'm perfectly prepared to think that it may be my own views that change more than others' here. Although I've read and listened to these sections numbers of times in the past this is really the first time I've discussed it in the level of detail that we are doing now, so I am sure I'll have much to revise as we go forward.

Post by "Martin" of January 6, 2021 at 8:52 AM

Mirages seem to be not a suitable example in this context. They are real optical phenomena which happen outside of our bodies, which our eyes report correctly to the brain and which are not tricks our eyes play on us.

Post by “Cassius” of January 6, 2021 at 10:21 AM

[Quote from Martin](#)

They are real optical phenomena which happen outside of our bodies, which our eyes report correctly to the brain and which are not tricks our eyes play on us.

Martin I probably expressed my point poorly, and the way you state this, I wonder if that makes mirages exactly a GOOD analogy to what Epicurus appears to be saying. He seems to be saying that the centaurs that are rarely but sometimes seen may be real optical phenomena too?

Post by “Elayne” of January 6, 2021 at 2:17 PM

On the recombination aspect-- the original texts, or at least their translations, seem to me to describe images recombining prior to entering the brain and then the mind interprets that. So the image of a centaur would be formed in the air prior to entering the body, and then the mind would form concepts about the image. Epicurus is treating images differently from concepts. I don't see him proposing that the brain actively recombines images, a different process from forming concepts.

This is very different from anything currently supported by evidence-- it's different from saying that our imagination builds on memories. He's giving a specific description of a physical process, a concrete description. We can make it metaphorical to try and make it fit, but that feels iffy from a science perspective.

Pre-formed images coming through the air vs images generated in the imagination based on memory-- these two processes lead to very different conclusions about reality. If images are pre-formed, they would have a reality external to our brains even if our conclusions about the images varied. In fact, we should be able, given technology, to locate and characterize them. We would make plans and decisions under the assumption that there was some real material pre-formed image coming to our brains from the outside.

I think understanding that he was describing a proposed concrete process starting outside the brain is critical and will be even more important when it comes to images of gods.

The highest level view is that our imaginations are not visions supernaturally implanted by gods. But beyond that, the details deviate in key ways from evidence.