Episode Eight-Four - Meteorology: Thunder and Lightning - Very Very Frightning Part Two

Post by “Cassius” of August 14, 2021 at 9:21 AM

Welcome to Episode Eighty-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. 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 visit EpicureanFriends.com where you will find our goals and our ground rules. If you have any questions about those, please be sure to contact us at the forum for more information.

In this Episode 84 we will read approximately Latin lines 173 through 335 as we continue further into Book Six.

Now let's join Don reading today's text.

Munro Notes-

173-203: I explained before how the wind eddying about within a cloud would hollow it out: well the rapid motion heats this wind; and when it escapes from the cloud, it scatters about its seeds of fire : thus you first see the flash, and then hear the noise: this takes place when the clouds are piled up high one on the other; the winds within these make a great roaring and gather flame within them, as in a furnace, till at last they burst out.

204-218: fire of a clear gold colour sometimes darts down to the earth, because the clouds have in them many atoms of fire, and draw many from the sun; when therefore they are compressed by the wind, they emit these seeds of flame without noise or disturbance.

219-238: the marks left by the thunderbolts themselves prove them to be of the nature of fire: this fire consists of atoms of extreme fineness, which nothing is able to stop; they are far more powerful than those of the sun.

239-245: now to explain the origin and prodigious force of thunderbolts.

246-322: that thunderbolts are formed in dense masses of clouds our eyesight tells us; the wind gathers the seeds of fire in these clouds, and gets ignited by them and the heat from its own

rapid motion, till it bursts forth with flashes and loud rattlings followed by heavy rain : sometimes a wind from without bursts a cloud charged with thunder; sometimes the wind gets fired on its journey, losing some of its own atoms and gathering from the air atoms of fire; sometimes the mere force of its blow strikes out fire, as cold steel strikes fire out of a stone; though the wind after such rapid motion can never be quite without warmth.

323-378: the thunderbolt derives its velocity from a union of causes: it acquires momentum within the cloud; as it bursts out of it, this is increased on the principle of missiles discharged from an engine; its atoms are extremely fine; acid to this the natural tendency downward, which increases continuously ; perhaps too it 'is aided by blows from atoms which it gathers to itself in the air : its subtle atoms pass through the pores of some things; burst asunder others; melt others. In autumn and spring thunder is most frequent, because then there is a mixture of heat and cold, of fire and wind, as well as moisture; all of which are needed to forge it.

Browne 1743

[173] And so the clouds will blaze with winged fire, and tempests will shine with trembling flame, when the winds get within a cloud, and roll about, and make it hollow (as I said before) til it grows condensed, and then by motion kindles and breaks into a flame. For things made hot by motion, we see, will fall on fire, and leaden bullets, in a long course through the air, have melted as they fled. Therefore this fiery wind, when it has burst the sides of this dark cloud, forces and instantly scatters many seeds of fire, which makes the sudden flash of lightning strike our sight. This happens when the clouds are thick and roll on heaps, one pile above another, with wondrous swiftness through the air. Nor must you think this false because the clouds, to us that stand below, seem rather broad than deep, or raised on heaps; for see how the winds will whirl along the air these rolling clouds, raised mountain-high; and on the mountain-tops the clouds, observe, are higher some than others, and piled on heaps; and, when the winds are still, the higher row will press the lower down. Then you may judge of their prodigious weight, and view their hollow caverns, formed as it were in hanging rocks, where in a tempest the rough winds are shut, and scorn to be confined, and roar with horrid noise, like savage beasts within their dens chained down. They grumble here and there, on every side, within the clouds, and striving to get free, roll every way about, and as they move collect the fiery seeds in great abundance, and in the heated caverns toss them about until the clouds burst, and then they flash in shining flame.

[204] And for this reason, perhaps, the lightning (that swift and golden stream of pure fire) flies down upon the earth, because the clouds must needs contain within themselves plenty of fiery seeds, and such as are without moisture, look bright and of a fiery color, for they must receive many fiery particles from the sun, and therefore cannot but look red, and send out flame. These, when the force of winds have pressed and driven into a narrow space, the fiery seeds, being squeezed, fly out and make that glaring flame to shine abroad.

[214] Or it lightens because the clouds above are rarefied; for when the winds blow on them as they pass, and gently stretch them out, and wear them thin, the seeds of fire that make the light must needs fall out, but then it shines without much noise and terror, and causes no confusion in the sky.

[219] Now of what seeds the lightning is composed its strokes will show, and marks of fire it leaves behind, and steams of stinking sulphur in the air, for these are signs of fire, not wind or rain, for lightning will set on fire whole towns, and with swift flames consume the houses to the ground.

[225] Nature has formed this subtle fire of seeds of heat the most minute, and particles most apt to move, which nothing can resist. It passes forcibly through the walls as voice and sound. It flies through stones and brass, and in a moment melts both brass and gold. It has strange power to draw the liquor out, and leave the vessel whole: This it does by loosening the contexture of the cask, and by widening its pores every way, that so its heat may more easily find a passage through; and by then, by the swiftness of its motion, it dissolves the body of the liquor, scatters its seeds, and forces it out. And this the heat of the sun is not able to do in an age, so much stronger is the force of this bright flame, its motion more swift, and its power more irresistible.

[239] But how these fires are formed, and how they rage with so great force, as by their strokes to beat down towers, to overturn houses, to tear up posts and beams, to shake and tumble down monuments of stone, to strike men dead, and kill whole herds at once; by what power they cause such scenes of ruin, this I shall now explain, as I promised, and keep you no longer in suspense.

[246] You are to observe, then, that thunder is produced from thick clouds, raised high one above another in the air; for the thunder never roars in a clear sky, nor is discharged from clouds that are not thick and condensed; and this is evident from common observation. The clouds thicken every way over all the heavens,. as if the whole mass of darkness had left the shades of Hell, and filled the spacious hollows of the sky; and this dark heap of clouds spreads a dreadful night over our heads, and makes us tremble here below. These are the signs when a tempest is forging thunder in the air.

[256] Besides, a black cloud is often observed at sea, below the dark regions of the clouds that falls from the sky like a stream of flowing pitch into the water; and being full of fire and wind, draws a black tempest with it, loaded with storms and thunder, so that those at land tremble and fly for shelter to their houses. Those clouds then, you must think, are high above our heads. They could not overwhelm the earth with so much darkness were they not raised on heaps above, and driven between us and the sun's light; nor could they load the earth with so great showers, and make the rivers swell and drown the plains, unless the clouds were raised on heaps in the upper regions of the air.

[269] These clouds are fully charged with wind and fire, and thence the lightnings flash and thunders roar; for, as I said above, these hollow clouds are full of fiery seeds, and many they received from the sun's rays and borrow from their heat. And when the wind compels them to retreat to a closer room, it drives out many seeds of fire, and mingles with the flame. Then the loud tempest rolls along the sky, and in its heated entrails forms and points the thunder. This wind is set on fire, either by the rapidity of its own motion, or catches from the fiery seeds within the cloud, and when it is raging hot, and in a flame, it collects all its fury, and then the ripened thunder instantly splits and bursts the cloud. The fiery tempest blazes all abroad with the darts of flashing light, followed by frightful noise, as if the temples of the gods above were rent asunder. The earth below trembles dreadfully at the shock, and the loud murmurs scour through all the heavens; for the whole tempest shakes and roars aloud. Then grievous showers in great abundance follow the concussion, as if the skies were all dissolved in rain, and poured down inundations from above. So dreadful is the clap that flies abroad with red-hot lightning, when the clouds burst, and storms of fiery wind rage through the air.

[295] Or else the lightning flies when, from without, a furious wind beats hard upon a cloud, replete with thunder ripe for birth; which, when it bursts the fiery vortex falls (we in our language call it thunder) and makes its way where the strokes most prevailed.

[300] Sometimes a furious wind will burst the cloud before tis set on fire, but kindles as it flies in its long passage through the air; for in its course it throws off the heavy seeds that lay behind, and could not make their way, and brushed and carried off other small seeds from the air, which join and fall on fire as they fly. Just as a ball of lead melts in its course and, throwing off the cold and stubborn sears, takes fire and softens in the air.

[309] And the fury of the stroke, perhaps, may raise a fire, when the force of a cold wind, unkindled, beats hard with all its power; for then the seeds of fire may flow together upon the violence of the stroke, not only from the wind, but from the thing it strikes; as when we strike the flint with steel, the fire flies out; and though the iron be by nature cold, yet when it feels the blow the hot seeds of fire will spread abroad. And thus, whatever the lightning falls upon may easily be set on fire, if it be in its nature fit and disposed to burn. Nor can the wind be supposed to be perfectly cold, since it is discharged from above with so much violence; and if it be not inflamed as it drives through the air, yet it must have some degree of heat when it comes to the earth.

[323] The swiftness and heavy stroke of the thunder, and the violence of its fall, proceed from hence. The wind, shut up within a cloud, rages in all its strength, and struggles hard to get free; and when the cloud can no longer bear the fury of its efforts, it breaks out and flies abroad with mighty force, as stones and darts from mighty engines thrown.

[330] Besides, the thunder is formed of small and smooth seeds, so subtle that nothing can withstand its force. It gets between and pierces through the smallest pores; it meets with nothing that can divert its passage, and therefore flies abroad with the swiftest motion.

[335] And then, since all bodies of weight naturally descend, when blows or outward force is added to their innate gravity, their motion doubles, and the violence of the strokes drives them downwards with greater speed, and consequently they beat through every thing that obstructs their motion much sooner and with more vehemence pursue their course.

Munro 1886

[173] Also in the following manner clouds dye places with winged light and the storm flashes out with a rapid quivering movement. When the wind has made its way into a cloud and whirling about in it has, as I have shown above, made the cloud hollow with a dense crust, it becomes hot by its own velocity: thus you see all things thoroughly heated and fired by motion; nay a leaden ball in whirling through along course even melts. When therefore this wind now on fire has rent the black cloud, it scatters abroad at once seeds of fire pressed out by force so to speak, and these produce the throbbing flashes of flame; then follows a sound which strikes on the ears more slowly than the things which travel to our eyes strike on them. This you are to know takes place when the clouds are dense and at the same time piled up on high one above the other in marvelous accumulation; that you be not led into error, because we see how great their breadth is below, rather than to how great a height they are piled up. Observe, at a time when the winds shall carry clouds like to mountains with a slanting course through the air, or when you shall see them piled on the sides of great mountains one on the top of the other and pressing down from above perfectly at rest, the winds being buried on all sides. You will then be able to observe their great masses and to see caverns as it were built of hanging rocks; and when a storm has gathered and the winds have filled these, they chafe with aloud roaring shut up in the clouds, and bluster in their dens after the fashion of wild beasts: now from this point, now from that the winds send their growlings through the clouds, and seeking a way outwhirl about and roll together seeds of fire out of the clouds and then gather many into a mass and make flame rotate in the hollow furnaces within, until they have burst the cloud and shone forth in forked flashes.

[204] From this cause again yon golden color of clear bright fire flies down with velocity to the earth: the clouds must themselves have very many seeds of fire; for when they are without any moisture, they are mostly of a brilliant flame color. Moreover they must take in many from the sun’s light, so that with good cause they are ruddy and shed forth fires. When therefore the wind has driven thrust squeezed together and collected into one spot these clouds, they press out and shed forth seeds which cause the colors of flame to flash out.

[214] It also lightens when the clouds of heaven are rarefied as well. For when the wind lightly unravels them and breaks them up as they move, those seeds which produce the lightning must fall perforce; and then it lightens without a hideous startling noise and without any uproar.

[219] Well, to proceed, what kind of nature thunderbolts possess, is shown by their strokes and the traces of their heat which have burnt themselves into things and the marks which exhale the noxious vapors of sulfur: all these are signs of fire, not of wind or rain. Again they often set

on fire even the roofs of houses and with swift flame rule resistless within the house.

[225] This fire subtle above all fires nature, you are to know, forms of minute and lightly moving bodies, and it is such as nothing whatever can withstand. The mighty thunderbolt passes through the walls of houses, like a shout and voices, passes through stones, through brass, and in a moment of time melts brass and gold; and causes wine too in an instant to disappear, while the vessels are untouched, because sure enough its heat on reaching it readily loosens and rarefies all the earthen material of the vessel on every side and forcing a way within lightly separates and disperses the first-beginnings of the wine. This the sun’s heat would be unable to accomplish in an age, though beating on it incessantly with its quivering heat: so much more nimble and overpowering is this other force.

[239] And now in what way these are begotten and are formed with a force so resistless as to be able with their stroke to burst asunder towers, throw down houses, wrench away beams and rafters, and cast down and burn up the monuments of men, to strike men dead, prostrate cattle far and near, by what force they can do all this and the like, I will make clear and will not longer detain you with mere professions.

[246] Thunderbolts we must suppose to be begotten out of dense clouds piled up high; for they are never sent forth at all when the sky is clear or when the clouds are of a slight density. That this is so beyond all question is proved by facts evident to sense: clouds at such times form so dense a mass over the whole sky that we might imagine all its darkness had abandoned Acheron throughout and filled up the great vaults of heaven: in such numbers, gathering up out of the frightful night of storm clouds, do faces of black horror hang over us on high; what time the storm begins to forge its thunderbolts.

[256] Very often again a black storm-cloud too out at sea, like a stream of pitch sent down from heaven, falls in such wise upon the waters heavily charged with darkness afar off and draws down a black tempest big with lightnings and storms, itself so fraught above all the rest with fires and winds, that even on land men shudder and seek shelter. Thus then we must suppose that the storm above our head reaches high up; for the clouds would never bury the earth in such thick darkness, unless they were built up high heap upon heap, the sunlight totally disappearing; nor could the clouds when they descend drown it with so great a rain, as to make rivers overflow and put fields under water, if they were not piled high up in the sky.

[269] In this case then all things are filled with winds and fire; therefore thunderings and lightnings go on all about. For I have shown above that hollow clouds have very many seeds of heat, and they must also take many in from the sun’s rays and their heat. On this account when the same wind which happens to collect them into any one place, has forced out many seeds of heat and has mixed itself up with that fire, then the eddy of wind forces a way in and whirls about in the straitened room and points the thunderbolt in the fiery furnaces within; for it is kindled in two ways at once: it is heated by its own velocity and from the contact of fire. After that when the force of the wind has been thoroughly heated and the impetuous power of the

fire has entered in, then the thunderbolt fully forged as it were suddenly rends the cloud, and the heat put in motion is carried on traversing all places with flashing lights. Close upon it falls so heavy a clap that it seems to crush down from above the quarters of heaven which have all at once sprung asunder. Then a trembling violently seizes the earth and rumblings run through high heaven; for the whole body of the storm then without exception quakes with the shock and loud roarings are aroused. After this shock follows so heavy and copious a rain that the whole ether seems to be turning into rain and then to be tumbling down and returning to a deluge: so great a flood of it is discharged by the bursting of the cloud and the storm of wind, when the sound flies forth from the burning stroke.

[295] At times too the force of the wind set in motion from without falls on a cloud hot with a fully forged thunderbolt; and when it has burst it, forthwith there falls down yon fiery eddying whirl which in our native speech we call a thunderbolt. The same takes place on every other side towards which the force in question has borne down.

[300] Sometimes too the power of the wind though discharged without fire, yet catches fire in the course of its long travel, and while it is passing on, it loses on the way some large bodies which cannot like the rest get through the air; and gathers together out of the air itself and carries along with it other bodies of very small size which mix with it and produce fire by their flight; very much in the same way as a leaden ball becomes hot during its course, when it loses many bodies of cold and has taken up fire in the air.

[309] Sometimes too the force of the blow itself strikes out fire, when the force of wind discharged in a cold state without fire has struck, because sure enough, when it has smitten with a powerful stroke, the elements of heat are able to stream together out of the wind itself and at the same time out of the thing which then encounters the stroke. Thus, when we strike a stone with iron, fire flies out; and none the less, because the force of the iron is cold, do its seeds of fiery brightness meet together upon the stroke. Therefore in the same way too a thing ought to beset on fire by the thunderbolt, if it has happened to be in a state suited to receive and susceptible of the flames. At the same time the might of the wind cannot lightly be thought to be absolutely and decidedly cold, seeing that it is discharged with such force from above; but if it is not already set on fire during its course, it yet arrives in a warm state with heat mixed up in it.

[323] But the velocity of thunderbolts is great and their stroke powerful, and they run through their course with a rapid descent, because their force when set in motion first in all cases collects itself in the clouds and gathers itself up for a great effort at starting; then when the cloud is no longer able to hold the increased moving power, their force is pressed out and therefore flies with a marvelous moving power, like to that with which missiles are carried when discharged from powerful engines.

[330] Then too the thunderbolt consists of small and smooth elements, and such a nature it is not easy for anything to withstand; for it flies between and passes in through the porous

passages; therefore it is not checked and delayed by many collisions, and for this reason it glides and flies on with a swift moving power.

[335] Next, all weights without exception naturally pressing downward, when to this a blow is added, the velocity is doubled and yon moving power becomes so intense that the thunderbolt dashes aside more impetuously and swiftly whatever gets in its way and tries to hinder it, and pursues its journey.

Bailey 1921

[173] In this manner, too, the clouds colour places with leaping light, and the storm lightens with quivering dart. When wind has come within a cloud, and moving there has, as I have shown before, made the hollow cloud grow thick, it grows hot with its own swift movement; even as you see all things become hot and catch fire through motion, yea, even a ball of lead too, whirling in a long course, will melt. And so when this heated wind has torn through the black cloud, it scatters abroad seeds of fire, as though struck out all at once by force, and they make the pulsing flashes of flame; thereafter follows the sound, which reaches our ears more slowly than things which come to the light of our eyes. This, we must know, comes to pass in thick clouds, which are also piled up high one on the other in wondrous slope; lest you be deceived because we below see how broad they are rather than to what a height they stand piled up. For do but look, when next the winds carry athwart the air clouds in the semblance of mountains, or when you see them heaped along a mighty mountain-range one above the other, pressing down from above, at rest in their appointed place, when the winds on all sides are in their graves. Then you will be able to mark their mighty mass, and to see their caverns built up, as it were, of hanging rocks: and when the storm has risen and the winds have filled them, with loud roar they chafe prisoned in the clouds, and threaten like wild beasts in cages; now from this side, now from that they send forth their roaring through the clouds, and seeking an outlet they move round and round, and roll together the seeds of fire from out the clouds, and so drive many into a mass and set the flame whirling within the hollow furnaces, until they have rent asunder the cloud and flashed blazing out.

[204] For this cause, too, it comes to pass that this swift golden tinge of liquid fire flies down to earth, because it must needs be that the clouds have in themselves very many seeds of fire; for indeed when they are without any moisture, they have for the most part a bright and flaming colour. For verily it must needs be that they catch many such from the sun’s light, so that with reason they are red, and pour forth their fires. When then the wind as it drives them has pushed and packed and compelled them into one spot, they squeeze out and pour forth the seeds which make the colours of flame to flash.

[214] It lightens likewise, also when the clouds of heaven grow thin. For when the wind lightly draws them asunder as they move, and breaks them up, it must needs be that those seeds, which make the flash, fall out unbidden. Then it lightens without hideous alarm, without noise, and with no uproar.

[219] For the rest, with what kind of nature the thunderbolts are endowed, is shown by the blows and the burned markings of their heat and the brands which breathe out noisome vapours of sulphur. For these are marks of fire, not of wind nor rain. Moreover, often too they set the roofs of dwellings on fire, and with swiftly-moving flame play the tyrant even within the houses.

[225] This fire, you must know, nature has fashioned most subtle of all subtle fires, of tiny swift-moving bodies—a flame to which nothing at all can be a barrier. For the strong thunderbolt can pass through the walls of houses, even as shouts and cries, can pass through rocks, through things of bronze, and in a moment of time can melt bronze and gold; likewise it causes wine in an instant to flee away, though the vessels be untouched, because, we may be sure, its heat as it comes easily loosens all around and makes rarefied the porcelain of the vessel, and finding its way right into the wine, with quick motion dissolves and scatters the first-beginnings of the wine. Yet this the heat of the sun is seen to be unable to bring about in a long age, though it has such exceeding strength in its flashing blaze. So much swifter and more masterful is this force of the thunderbolt.

[239] Now in what manner they are fashioned and made with such force that they can with their blow burst open towers, overthrow houses, pluck up beams and joists, and upset and destroy the monuments of men, take the life from men, lay low the flocks on every side; by what force they are able to do all other things of this sort, I will set forth, nor keep thee longer waiting on my promise.

[246] We must suppose that thunderbolts are produced from thick clouds, piled up on high; for none are ever hurled abroad from the clear sky or from clouds of slight thickness. For without doubt clear-seen facts show that this comes to pass; at such times clouds grow into a mass throughout all the air, so that on all sides we 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, when the storm begins to forge its thunderbolts.

[256] Moreover, very often a black storm-cloud too, over the sea, like a stream of pitch shot from the sky, falls upon the waters, laden with darkness afar off, and draws on a black storm big with thunderbolts and hurricanes, itself more than all filled full with fires and winds in such wise that even on land men shudder and leek for shelter. Thus then above our head must we suppose the storm is raised high. For indeed they would not shroud the earth in such thick gloom, unless there were many clouds built up aloft on many others, shutting out all sunlight; nor when they come could they drown it in such heavy rain, as to make the rivers overflow and the fields swim, unless the ether were filled with clouds piled up on high.

[269] Here, then, all is full of winds and fires; for this cause all around come crashings and lightnings. For verily I have shown ere now that the hollow clouds possess very many seeds of heat, and many they must needs catch from the sun’s rays and their blaze. Therefore, when the

same wind, which drives them together, as it chances, into some one place, has squeezed out many seeds of heat, and at the same time has mingled itself with this fire, an eddy finds its way in there and whirls round in a narrow space and sharpens the thunderbolt in the hot furnaces within. For it is kindled in two ways, both when it grows hot with its own swift motion, and from contact with the fire. Next, when the force of the wind has grown exceeding hot, and the fierce onset of the fire has entered in, then the thunderbolt, full-forged, as it were, suddenly rends through the cloud, and shot out is borne on flooding all places with its blazing light. In its train follows a heavy crash, so that the quarters of the sky above seem to be burst asunder on a sudden and crush us. Then a trembling thrills violently through the earth, and rumblings race over the high heaven; for then all the storm is shaken into trembling and roarings move abroad. And from this shock follows rain, heavy and abundant, so that all the air seems to be turned into rain and thus falling headlong to summon earth back to deluge: so great a shower is shot forth with the rending of the cloud and the hurricane of wind, when the thunderclap flies forth with its burning blow.

[295] At times, too, the rushing force of wind falls from without upon the cloud hot with its new-forged thunderbolt; and when it has rent the cloud, straightway there falls out that fiery eddy which we call by the name our fathers gave it, the thunderbolt. The same thing happens in other directions, wherever its force has carried it.

[300] It comes to pass, too, sometimes that the force of the wind, starting without fire, yet catches fire on its course and its long wandering, as it loses in its journey, while it is approaching, certain large bodies, which cannot like the others make their way through the air; and gathering other small bodies from the air itself it carries them along, and they mingling with it make fire in their flight; in no other way than often a ball of lead grows hot in its course, when dropping many bodies of stiff cold it has taken in fire in the air.

[309] It comes to pass, too, that the force of the very blow rouses fire, when the force of the wind, starting cold without fire, has struck its stroke; because, we may be sure, when it has hit with violent blow, particles of heat can stream together out of the wind itself, and at the same time from the thing which then receives the blow; just as, when we strike a stone with iron, fire flies out, nor do the seeds of blazing heat rush together any more slowly at its blow, because the force of the iron is cold. Thus then a thing is bound to be kindled by the thunderbolt too, if by chance it is made fit and suitable for flame. Nor must we rashly think that the force of the wind can be wholly and utterly cold, when it has been discharged with such force on high; rather, if it is not beforehand on its journey kindled with fire, yet it arrives warmed and mingled with heat.

[323] But the great speed of the thunderbolt and its heavy blow comes to pass, yea, the thunderbolts always run their course with swift descent, because their force unaided is first of all set in motion in each case, and gathers itself within the clouds, and conceives a great effort for starting; and then, when the cloud has not been able to contain the growing strength of its onset, its force is squeezed out, and so flies with wondrous impulse even as the missiles which

are borne on, when shot from engines of war.

[330] Remember, too, that it is made of small and smooth particles, nor is it easy for anything to withstand such a nature: for it flies in between and pierces through the hollow passages, and so it is not clogged and delayed by many obstacles, and therefore it flies on falling with swift impulse.

[335] Again, because all weights by nature always press downwards, but when a blow is given as well, their swiftness is doubled and the impulse grows stronger, so that the more violently and quickly does it scatter with its blows all that impedes it, and continues on its journey.

Post by “Cassius” of August 14, 2021 at 9:44 AM

In this Episode 84 we need to be sure we start to include reference to static electricity - I think we made it through 83 without mentioning that once.

Post by “Cassius” of August 21, 2021 at 9:02 PM

Episode Eighty-Four of Lucretius Today is now available. In this episode we will read approximately Latin lines 173 through 335 as we continue to open Book Six and discuss meteorological issues such as thunder and lightning. Now let's join Don reading today's text.

https://www.spreaker.com/episode/46187590

Post by “Cassius” of August 21, 2021 at 10:49 PM

I want to note that in honor of Don's comment, I supplemented the name of this podcast with his reference to the Queen song.

To further solidify my own reputation as a connoisseur of fine music, I want to give credit to the source that led me to find today (too late for this podcast) a reference to what Don reads in this episode as **"the prodigious weight of the clouds" referenced by Lucretius in line 173:**

> Quote from Cassius
>
> Nor must you think this false because the clouds, to us that stand below, seem rather broad than deep, or raised on heaps; for see how the winds will whirl along the air these rolling clouds, raised mountain-high; and on the mountain-tops the clouds, observe, are higher some than others, and piled on heaps; and, when the winds are still, the higher row will press the lower down. **Then you may judge of their prodigious weight**, and view their hollow caverns, formed as it were in hanging rocks, where in a tempest the rough winds are shut, and scorn to be confined, and roar with horrid noise, like savage beasts within their dens chained down

Here's a US Geological Survey link that testifies to that prodigious weight, which I have to admit I find amazing: https://www.usgs.gov/special-topic/..._center_objects

... Which indicates that clouds can weigh as much as **551 tons**!

What exotic musical interest led me to this discovery?

None other than Paul COWSILL talking about the amazing weight of clouds on the Cowsill Podcast, episode 22.

Some of you may think it's sad that I am getting meteorological tips from the Cowsills, but the really sad thing is that most of you reading this are too young to have ever heard of the Cowsills!

Post by “Godfrey” of August 22, 2021 at 12:12 AM

A Google search just informed me that the Cowsills' big hit was Hair. I had no idea... ah, nostalgia!

Post by “Cassius” of August 22, 2021 at 5:24 AM

Yes Godfrey their big hit was Hair, but maybe even more so their trademark song was "The Rain, The Park, and Other Things," which had a very mid-sixties / San Francisco sound that you of all people (being from California) would recognize. Also "Indian Lake" and the theme from the

TV show "Love American Style" was sung by them too.

Post by “Godfrey” of August 22, 2021 at 11:57 AM

They were everywhere and I didn't even know it! 🤔

Post by “Cassius” of August 24, 2021 at 2:21 PM

I need to verify that this is the right episode to fit our electricity discussion but I'll park this here: