# Episode Eight-Seven - Earthquakes And The Water Cycle - The Reason The Seas Never Fill Up Over Time

## Post by “Cassius” of September 3, 2021 at 10:33 AM

**Welcome to Episode Eighty-Seven 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 87 we will read approximately Latin lines 527 - as discuss rain and storms and we continue further into Book Six.

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

Munro Notes

535-556: earthquakes have more than one cause: underground are caverns rocks rivers and lakes: well, when any of these caverns tumble in, whole mountains may fall and shake the earth; or if a mass of earth tumble into the large pools of water, the oscillation of the water may make the earth reel.

557-576: again when the wind underground presses on these caverns, the earth above leans in the same direction, so as to bring things within an ace of destruction; a presage of the earth's total ruin, which must come one day.

577-607 : again when wind and air enter from without or rise up from the ground into these caverns, after eddying about they sometimes cleave the crust of earth and swallow up whole towns; or, if they do not break through, yet they cause the earth to quake, and excite in men a feeling that the world will one day perish.

608-638: the sea does not grow larger, because its size is enormous compared with the supplies from rivers and springs and rains; the sun and winds too and clouds all draw off much, as they act upon so wide a surface; then as water comes through the porous earth into the sea it passes in like manner from the sea back to the earth.

639-646: now to explain the eruptions of Aetna, one of which struck neighbouring nations with such fear and awe.

647-679: to understand such eruptions, reflect that our world is a smaller fraction of the universe than a man is of the whole world : now we are not surprised when a man is seized with any one of numerous diseases, the seeds of which our world supplies; why then wonder that out of the universe should rise up the seeds of these or any other great natural convulsions? if you say the conflagration is here too great to comprehend, I reply that its rarity only makes it so appear; as we are creatures of habit, and wonder at what is strange and cease to wonder at what is common.

680-702: Aetna emits its flames in this way: caverns of rock run under it, full of wind which heats first itself and then the rocks and earth with which it comes in contact, and then bursts out with flame ashes smoke and huge stones: again caverns reach from the sea to the mountain; through these pass from the sea water and wind mixed; this wind and water force up flame and rucks and clouds of sand.

Browne 1743

[535] Learn now the cause of earthquakes: And first, you are to suppose that the Earth is the same below as it is above, that it is every way full of winds and caverns, and that it holds within its bowels many lakes, and pools, and rocks, and broken stones. You must believe that many hidden rivers flow with rapid waves within, and roll the jagged rocks along their tide, for the laws of nature require that the Earth within and without should be the same.

[543] This being premised and supposed: the Earth trembles and shakes above with dreadful ruin, when age has tumbled in these mighty caverns; for then whole mountains sink, and in a moment, with the horrid shock, spread frightful tremblings all abroad. And no wonder, since whole houses by the highway-side will quake as carts, with no great weight, pass through the streets, and so they start as chariots swiftly drive with mettled horses, they shake at every jumping of the wheel.

[552] This happens likewise when great weights of earth, loosened by time, plunge down into these deep and mighty lakes, for then the waters rage, and the earth reels and staggers with the shock; as a vessel on the ground cannot stand firm unless the liquor ceases to ferment and toss within.

[557] Besides, when winds, collected in the caverns of the earth, direct their force one way, and beat with fury on these hollow places, the earth inclines that way where the winds point their stroke; and our buildings raised above, nod that way too. The highest shake the most; the hanging beams start from the wall, and threaten to fly out. And yet men are afraid to think that Nature has fixed a fatal time when this great world shall be destroyed, and fall to ruin, although they see the heavy mass of earth leaning and tumbling to pieces. And did not the winds take time to breathe, nothing could check their fury, or keep them from destroying everything

before them. But since they cease by turns, then rage again, and storm with double force, and are again repelled, hence it is that the earth oftener threatens us with ruin than actually effects it. It inclines only, and then falls back, and though moved aside, settles with all its weight again in its former place. For this reason all our houses tremble and reel; the highest shakes the most, the middle less, the lowest little or nothing.

[577] The great tremblings of the earth may arise yet from another cause, when wind or violent blasts (raised either from without or within the earth itself) throw themselves furiously into these hollow caverns, and in these vast dens roar and toss themselves about, and when they have rolled within, and raged with all their might, they break abroad at last, and cleave the solid Earth, and make a hideous chasm. This happened at Sidon, a city of the Tyrians, and at Aegae in Peloponnesus. What cities has this eruption of the wind destroyed? What earthquakes has it produced? At land, the walls of many towns have tumbled down by these violent concussions; and many cities, with all its inhabitants, have sunk together into the sea.

[591] But if the wind does not break through, yet the fury and raging force of its blasts are scattered through the many pores of the earth like a shivering cold, and cause a shuddering in its bowels; as the Cold, when it seizes upon our limbs, makes us shake against our will, and tremble all over. Then men stagger with doubtful fear in all the cities; they are in dread of their houses above them, and of the earth under their feet, lest Nature should instantly break to pieces the caverns below; lest the divided earth should open wide its jaws and fill them with the utter desolation of men and houses.

[601] Even those who think the heavens and the earth are eternal, and will be preserved safe forever, yet the present dread of impending danger staggers them, and raises terrible apprehensions, lest the earth should instantly fall under their feet and sink into the great abyss; lest the dissolution of the universe, from the very foundation, should follow, and the fabric of the world should fall into ruin and confusion.

[608] And now we are to account why the waters of the sea are never increased. And first, men wonder that nature does not enlarge the bounds of the sea, in proportion to the falls of water, and the streams of so many rivers that from all parts flow into it. Besides the wandering showers and flying storms that pour down and discharge themselves upon lands and seas, you may add the fountains and springs likewise. But all these, compared to the vastness of the sea, are hardly more than one drop of water, and therefore can contribute little to its increase. No wonder then that the wide sea rolls within the same bounds.

[616] And then the Sun licks up a great part of its water with its heat, for we see the Sun dries a garment, dripping wet, with its burning rays. And the sea, we know, is widely spread, and exposed to the influence of his beams. And though the Sun draws up but a very little quantity of moisture from every part of the sea, yet, with so vast a circumference a great store of water must be drawn off.

[623] The winds likewise, brushing over the surface of the sea, carry off a large part; for we observe the roads are frequently dried in one night, and the soft dirt grows hard.

[627] Besides, I have shown that the clouds suck up a great deal of moisture from the wide sea, and then scatter it down over the whole earth, when the rain falls, and the winds drive the clouds through the sky.

[631] Lastly, since the earth is of a rare contexture, and full of pores, and every way surrounds the body of the sea which joins to it, it follows that, as the waters flow from the earth into the sea, so they must return from thence into the earth again. In these subterraneous passages the saline particles are strained off, and the waters flow back, and unite together at the fountainheads, from whence they glide sweetly, with their collected strength, over the earth, through those channels where the streams first cut their liquid way.

[639] Now learn the cause why fires break out with so much fury from the jaws of mount Aetna; for we are not to suppose such a tempest of fire rages over the pains of Sicily, and brings such destruction with it from the gods, as if it only raised the admiration of all the neighboring people, who seeing the whole heavens sparkling with fire, and full of smoke, trembled with anxious concern and wondered what new phenomenon nature was going to produce.

[647] The reason of these events requires a deeper and wider search. You must enter further into all their parts, and then you will recollect that the universe of things is infinite, and observe how small a part (scarce one of a thousand) is one heaven, in comparison of the whole, and what a poor pittance of the whole earth is one man. If you consider this well, and observe closely, you will cease wondering at many things which now raise your admiration.

[655] For where is the wonder with any of us if a man receives the burning heat of a fever within his veins, or feels the anguish of any other disease in his limbs? For our foot often swells of a sudden, a sharp pain frequently seizes upon our teeth, and attacks our eyes. There is such a thing as the Holy Fire, that spreads over the body, and burns the part it fixes upon, and creeps over the limbs. Nothing strange! For the seeds of things are in great abundance, and the earth and the heavens affords sufficient supplies of hurtful seeds from whence the sharpest diseases may be produced in us. And therefore you must think that large store of seeds may flow from the infinite space and supply the earth and the whole heavens. These may cause those sudden and violent tremblings of the earth, that rapid whirlwinds scour along the land and sea, and that there is abundant fuel for the flames of Aetna, and that the sky is all in a blaze. For this happens and the heavens are on fire, when the seeds of flame unite, as the storms of rain are the more violent when the seeds of water are collected and joined together.

[673] But you will say the fire of Aetna is too great and impetuous. By the same rule a river, not very large, appears a mighty stream to one who never saw a greater, and so a man or a tree that seems prodigious, and all other bodies that we see, we imagine are extraordinary; when alas! all beings, with the heavens, the earth, and the sea together, are nothing to the vast universe of all.

[680] And now I shall explain by what means the raging flame bursts suddenly abroad from the vast fiery entrails of this mountain. And first, Nature has formed the whole mountain hollow within, and supports these cavities by arches of stone. Now all caverns are filled with wind and

air, for air, when it is violently moved, becomes wind. And this wind, when it is grown hot, and furiously whirling about, has inflamed the stones and the earth by beating upon them, and from them has struck out sparks of fire with rapid flame. Then it raises itself up, and throws itself violently out of the open jaws at the top into the air. Then it pours the fire abroad, and spreads the burning embers all about, and belches dusty clouds of rolling smoke, and shoots out rocks of wondrous weight. This, no doubt, is done by furious blasts of wind within.

[694] Besides, the sea, for a great way, dashes its waves against the roots of this mountain, and then again sucks up its tide. The waters press into these caverns that lie directly under those open jaws above. This you must allow, and the flames yielding to the driving flood there force their passage out, and fly abroad, and cast the fire on high, and throw out rocks, and raise whole clouds of sand, for on the summit there are certain basins where wind is generated: the Greeks call them so; we call them mouths and jaws.

Munro 1886

[535] Now mark and learn what the law of earthquakes is. And first of all take for granted that the earth below us as well as above is filled in all parts with windy caverns and bears within its bosom many lakes and many chasms, cliffs and craggy rocks; and you must suppose that many rivers hidden beneath the crust of the earth roll on with violence waves and submerged stones; for the very nature of the case requires it to be throughout like to itself.

[543] With such things then attached and placed below, the earth quakes above from the shock of great falling masses, when underneath time has undermined vast caverns; whole mountains indeed fall in, and in an instant from the mighty shock tremblings spread themselves far and wide from that center. And with good cause, since buildings beside a road tremble throughout when shaken by a wagon of not such very great weight; and they rock no less, where any sharp pebble on the road jolts up the iron tires of the wheels on both sides.

[552] Sometimes too, when an enormous mass of soil through age rolls down from the land into great and extensive pools of water, the earth rocks and sways with the undulation of the water; just as a vessel at times cannot rest, until the liquid within has ceased to sway about in unsteady undulations.

[557] Again when the wind gathering itself together in the hollow places underground bears down on one point and pushing on presses with great violence the deep caverns, the earth leans over on the side to which the headlong violence of the wind presses. Then all buildings which are above ground, and ever the more, the more they tower up towards heaven, lean over and bulge out yielding in the same direction, and the timbers wrenched from their supports hangover ready to give way. And yet men shrink from believing that a time of destruction and ruin awaits the nature of the great world, though they see so great a mass of earth hang ready to fall! And if the winds did not abate their blowing, no force could rein things in or hold them up on their road to destruction. As it is, because by turns they do abate and then increase in

violence, and so to speak rally and return to the charge, and then are defeated and retire, for this reason the earth oftener threatens to fall than really falls: it leans over and then sways back again, and after tumbling forward recovers in equal poise its fixed position. For this reason the whole house rocks, the top more than the middle, the middle than the bottom, the bottom in a very very slight degree.

[577] The same great quaking likewise arises from this cause, when on a sudden the wind and some enormous force of air gathering either from without or within the earth have flung themselves into the hollows of the earth, and there chafe at first with much uproar among the great caverns and are carried on with a whirling motion, and when their force afterwards stirred and lashed into fury bursts abroad and at the same moment cleaves the deep earth and opens up a great yawning chasm. This fell out in Syrian Sidon and took place at Aegium in the Peloponnese, two towns which an outbreak of wind of this sort and the ensuing earthquake threw down. And many walled places besides fell down by great commotions on land and many towns sank down engulfed in the sea together with their burghers.

[591] And if they do not break out, still the impetuous fury of the air and the fierce violence of the wind spread over the numerous passages of the earth like a shivering-fit and thereby cause a trembling; just as cold when it has pierced into our frames to the very marrow, sets them a-shivering in spite of themselves, forcing them to shake and move. Men are therefore disturbed by a twofold terror throughout their cities: they fear the roofs above their heads, they dread lest the nature of the earth in a moment break up her caverns underneath, and rent asunder display her own wide-gaping maw and wildly tumbled together seek to fill it up with her own ruins.

[601] Let them then fancy as much as they please that heaven and earth shall be incorruptible and consigned to an everlasting exemption from decay; and yet sometimes the very present force of danger applies on some side or other this goad of fear among others, that the earth shall in an instant be withdrawn from under their feet and carried down into the pit, and that the sum of things shall utterly give way and follow after and a jumbled wreck of world ensue.

[608] First of all they wonder that nature does not increase the bulk of the sea, when there is so great a flow of water into it, when all rivers from all quarters fall into it. Add to these passing rains and flying storms, which bespatter every sea and moisten every land; add its own springs; yet all these compared with the sum of the sea will be like an addition of bulk hardly amounting to a single drop; it is therefore the less wonderful that the great sea does not increase.

[616] Again the sun absorbs a great deal with his heat: we see him with his burning rays thoroughly dry clothes dripping with wet: but we know seas to be many in number and to stretch over a wide surface. Therefore however small the portion of moisture which the sun draws off the surface from any one spot, it will yet in so vast an expanse take largely from its waters.

[623] Then again the winds too may withdraw a great deal of moisture as they sweep over the surface, since we very often see the roads dried by the winds in a single night and the soft mud

form into hard crusts.

[627] Again I have shown that the clouds take off much moisture too imbibed from the great surface of the sea and scatter it about over the whole earth, when it rains on land and the winds carry on the clouds.

[631] Lastly since the earth is of a porous body and is in contact with the sea, girding its shores all round, just as water comes from the earth into the sea, in the same way it must ooze into the land out of the salt sea; for the salt is strained off and the matter of liquid streams back again to the source and all flows together to the river-heads, and then passes anew over the lands in afresh current, where a channel once scooped out has carried down the waters with liquid foot.

[639] And now I will explain why it is that fires breathe forth at times through the gorges of mount Aetna with such hurricane-like fury; for with a destroying force of no ordinary kind the flame-storm gathered itself up and lording it over the lands of the Sicilians drew on itself the gaze of neighboring nations, when seeing all the quarters of heaven smoke and sparkle men were filled in heart with awe-struck apprehension, not knowing what strange change nature was travailing to work.

[647] In these matters you must look far and deep and make a wide survey in all directions, in order to bear in mind that the sum of things is unfathomable and to perceive how very small, how inconceivably minute a fraction of the whole sum one heaven is, not so large a fraction of it as one man is of the whole earth. If you should clearly comprehend, clearly see this point well put, you would cease to wonder at many things.

[655] Does any one among us wonder if he has gotten into his frame a fever that has broken out with burning heat, or into his body the pains of any other disease? The foot suddenly swells, sharp pain often seizes the teeth, or else attacks the eyes; the holy fire breaks out and creeping over the body burns whatever part it has seized upon, and spreads over the frame, because sure enough there are seeds of many things, and this earth and heaven bring to us evil enough to allow of a measureless amount of disease springing up. In this way then we must suppose that all things are supplied out of the infinite to the whole heaven and earth in quantity sufficient to allow the earth in a moment to be shaken and stirred, and a rapid hurricane to scour over sea and land, the fire of Aetna to overflow, the heaven to be in flames; for that too is seen and the heavenly quarters are on fire; and rain-storms gather in a heavier mass, when the seeds of water have haply come together for such an end.

[673] “Ay, but the stormy rage of the conflagration is too gigantic.” Yes, and so any river you like is greatest to him who has never before seen any greater, and thus a tree and a man seem gigantic, and in the case of all things of all kinds the greatest a man has seen he fancies to be gigantic, though yet all things with heaven and earth and sea included are nothing to the whole sum of the universal sum.

[680] And now at last I will explain in what ways yon flame roused to fury in a moment blazes forth from the huge furnaces of Aetna. And first the nature of the whole mountain is hollow underneath, underpropped throughout with caverns of basalt rocks. Furthermore in all caves are wind and air; for wind is produced, when the air has been stirred and put in motion. When this air has been thoroughly heated and raging about has imparted its heat to all the rocks round, wherever it comes in contact with them, and to the earth, and has struck out from them fire burning with swift flames, it rises up and then forces itself out on high straight through the gorges; and so carries its heat far and scatters far its ashes and rolls on smoke of a thick pitchy blackness and flings out at the same time stones of prodigious weight; leaving no doubt that this is the stormy force of air.

[694] Again the sea to a great extent breaks its waves and sucks back its surf at the roots of that mountain. Caverns reach from this sea as far as the deep gorges of the mountain below. Through these you must admit \[that air mixed up with water passes; and\] the nature of the case compels \[this air to enter in from that\] open sea and pass right within and then go out in blasts and so lift up flame and throw out stones and raise clouds of sand; for on the summit are craters, as they name them in their own language; what we call gorges and mouths.

Bailey 1921

[535] Come now and learn what is the law of earthquakes. And first of all let yourself suppose that the earth is below, just as above, full on all sides of windy caverns; and you must think it bears in its bosom many lakes and many pools and cliffs and sheer rocks; and that many rivers hidden beneath the back of the earth roll on amain their waves and submerged stones. For clear fact demands that it should be in all parts like itself.

[543] When these things then are placed and linked together beneath it, the earth above trembles, shaken by great falling masses, when beneath time has caused huge caverns to fall in; nay, indeed, whole mountains fall, and at the great sudden shock tremblings creep abroad thence far and wide. And with good reason, since whole houses by the roadside tremble when shaken by a wagon of no great weight, and rock none the less, whenever a stone in the road jolts on the iron circles of the wheels on either side.

[552] It comes to pass too, when a vast mass of soil, loosened by age from the earth, rolls down into huge wide pools of water, that the earth too tosses and sways beneath the wave of water; even as a vessel sometimes cannot stand still, unless the liquid within has ceased to toss with unsteady wave.

[557] Moreover, when the wind gathering throughout the cavernous places of the earth blows strong from one point, and with all its weight presses on the lofty caves with mighty strength, the earth leans over to where the swooping force of the wind presses it. Then the houses that are built up upon the earth, yea, the more they are severally raised towards the sky, bend over in suspense, tottering towards the same quarter, and the timbers driven forward hang out ready to fall. And yet men fear to believe that a time of destruction and ruin awaits the nature of the great world, even when they see so great a mass of earth bowing to its fall. Why, unless

the winds breathed in again, no force could put a curb on things or avail to pull them back from destruction as they fell. As it is, because turn by turn they breathe in and then grow violent, because, as it were, they rally and charge again and then are driven back and give ground, for this reason the earth more often threatens a fall than brings it to pass; for it leans over and then sways back again, and after falling forward recovers its position to a steady poise. In this way, then, the whole building rocks, the top more than the middle, the middle more than the bottom, the bottom but a very little.

[577] There is this cause, too, of that same great shaking, when suddenly wind and some exceeding great force of air, gathering either from without or within the earth itself, have hurled themselves into the hollow places of the earth, and there first rage among the great caves in turmoil, and rise, carried on in a whirl; and when afterwards the moving force driven forth bursts out and at the same time cleaves the earth and causes a huge chasm. Even as it came to pass at Sidon in Syria, and as was the case at Aegium in Peloponnese, cities overthrown by this issue of air and the quaking of the earth which arose. And besides many walled towns have fallen through great movements on land, and many cities have sunk down deep into the sea, inhabitants and all.

[591] And even if it does not burst forth, yet the very impulse of the air and the fierce force of the wind are spread, like a fit of shivering, throughout the riddling passages of the earth, and thereby induce a trembling: even as cold, when it comes deep into our members, shakes them against their will and constrains them to tremble and to move. So men quiver with anxious terror throughout the cities, they fear the houses above, they dread the hollow places beneath, lest the nature of the earth should break them open all at once, and lest torn asunder she should open wide her maw, and, tumbled all together, desire to fill it with her own falling ruins.

[601] Let them then believe as they will that heaven and earth will be indestructible, entrusted to some everlasting protection; and yet from time to time the very present force of danger applies on some side or other this goad of fear, lest the earth, snatched away suddenly from beneath their feet be carried into the abyss, and the sum of things, left utterly without foundation, follow on, and there be a tumbling wreck of the whole world.

[608] First of all they wonder that nature does not make the sea bigger, since there comes into it so great a downpour of water, yea, all the streams from every quarter. Add, if you will, the shifting showers and the scudding storms, which bespatter and drench all seas and lands; add too its own springs; yet compared to the sum of the sea all these things will scarce be equal to the increase of a single drop; therefore it is the less strange that the great sea does not increase.

[616] Moreover, the sun draws off a great part by his heat. For verily we see the sun with its blazing rays dry clothes wringing with moisture; and yet we see many oceans spread wide beneath earth’s level. Therefore, although from each single place the sun sucks up but a small part of moisture from the level sea; yet in so great a space it will draw largely from the waves.

[623] Then again, the winds too can lift a great part of moisture as they sweep the level seas, since very often we see roads dried by the wind in a single night, and the soft mud harden into crusts.

[627] Moreover, I have shown that the clouds too lift up much moisture taken in from the great level of ocean, and scatter it broadcast over all the circle of lands, when it rains on the earth and the winds carry on the clouds.

[631] Lastly, since the earth is formed of porous body, and is continuous, surrounding on all sides the shores of the sea, it must needs be that, just as the moisture of water passes into the sea from the lands, it likewise filters through into the land from the salt sea levels; for the brine is strained through, and the substance of moisture oozes back and all streams together at the fountain-head of rivers, and thence comes back over the lands with freshened current, where the channel once cleft has brought down the waters in their liquid march.

[639] Now what is the reason that through the jaws of Mount Etna flames sometimes breathe forth in so great a hurricane, I will unfold. For indeed the flaming storm gathered with no moderate force of destruction and ruled tyrant through the fields of the Sicilians and turned to itself the gaze of neighbouring nations, when they saw all the quarters of the heavens smoke and sparkle, and filled their breasts with shuddering anxiety for what new change nature might be planning.

[647] Herein you must look far and deep and take a wide view to every quarter, that you may remember that the sum of things is unfathomable, and see how small, how infinitely small a part of the whole sum is one single heaven—not so large a part, as is a single man of the whole earth. And if you have this duly before you and look clearly at it and see it clearly, you would cease to wonder at many things.

[655] For does any of us wonder, if a man has caught in his limbs a fever gathering with burning heat, or any other painful disease in his members? For a foot will swell suddenly, often a sharp pain seizes on the teeth or makes its way right into the eyes; the holy fire breaks out and creeping about in the body burns any part which it has seized, and crawls through the limbs, because, as we may be sure, there are seeds of many things, and this earth and heaven has enough disease and malady, from which the force of measureless disease might avail to spread abroad. So then we must suppose that out of the infinite all things are supplied to the whole heaven and earth in number enough that on a sudden the earth might be shaken and moved, and a tearing hurricane course over sea and land, the fire of Etna well forth, and the heaven be aflame. For that too comes to pass, and the quarters of heaven blaze, and there are rainstorms gathering in heavier mass, when by chance the seeds of the waters have so arranged themselves.

[673] ‘Nay, but the stormy blaze of this fire is exceeding gigantic.’ So, too, be sure, is the river which is the greatest seen by a man, who has never before seen any greater: so a tree or a man may seem gigantic, and in every kind of thing, the greatest that each man has seen, he always imagines gigantic, and yet all of them together, yea, with heaven and earth and sea

besides, are nothing to the whole sum of the universal sum.

[680] But now in what ways that flame is suddenly excited and breathes abroad from out the vast furnaces of Etna, I will unfold. First of all the nature of the whole mountain is hollow beneath, resting everywhere on caverns of basalt. Moreover, in all the caves there is wind and air. For air becomes wind, when it is set in motion and aroused. When it has grown hot, and as it rages has heated all the rocks and the earth around wherever it touches them, and has struck out from them a fire hot with swift flames, it rises up and so drives itself forth on high straight through the mountain’s jaws. And so it carries its heat far, and afar it scatters the ash and rolls on a smoke with thick murky darkness, and all the while hurls out rocks of marvelous weight; for you must not doubt that this is the stormy force of air.

[694] Moreover, in great part the sea makes its waves break and sucks in its tide at the roots of that mountain. From this sea caves stretch underneath right to the deep jaws of the mountain. By this path we must admit that \[water\] passes in, and the fact compels us \[to believe that wind is mingled with it\] and pierces deep in from the open sea, and then breathes out, and so lifts up the flame and casts up rocks and raises clouds of dust. For on the topmost peak are craters, as the inhabitants name them; what we call jaws or mouths.