Thomas Nail, "Dark Lucretius: The Birth of Death"
K. Revue trans-européenne de philosophie et arts, 6 – 1 / 2021, pp. 103-128

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Dark Lucretius: The Birth of Death

ABSTRACT: This paper argues that Lucretius ended his epic poem *De Rerum Natura* with the death of the world and the plague at Athens because he was not merely a philosopher of life and creativity as many scholars believe. For Lucretius, the entropic processes of death and dissolution are the origins of creativity and life. I also argue, against the Epicurean interpretation of Lucretius, that the conclusion of *De Rerum Natura* shows how different the two thinkers were. In particular, the article looks closely at lines 91-234 of book five and offers an alternative interpretation of Lucretius' philosophy of history and death in which the ending of the book fits perfectly not despite its darkness but because of it.
Keywords: Lucretius, Death, Materialism, Movement, History

Many readers have felt dissatisfied with the ending of Lucretius' first-century BCE epic poem *De Rerum Natura*. Commentators who interpret Lucretius as a philosopher of creation and vitality have even argued that the poem is unfinished and incomplete because it ends with the gruesome plague at Athens (Deleuze, Parnet, 1997, p. 15). If they acknowledge Lucretius' dark side, they tend to either downplay or criticize it[1]. However, my feeling is that this reaction says more about the reader's expectations than the poem itself.

Rather than speculate about alternate endings to the poem, I want to suggest that it is an occasion to rethink our understanding of Lucretius' philosophy. In particular, this article looks closely at lines 91-234 of book five to offer an alternative interpretation of Lucretius' philosophy of history and death in which the ending of the book fits perfectly.

If we assume that Lucretius was an Epicurean, then we should certainly be upset and confused by the conclusion of *De Rerum Natura*. The proper Epicurean conclusion to an "atomic epic" seems like it should be the contemplation of peaceful, unchanging gods unaffected by the world's death because they live in the everlasting calm between worlds. Our tranquil Epicurean minds should at least help us prevail in the face of suffering and death more than Lucretius' description of the plague suggests. After all, what is the point of using reason or thinking of the gods if nature can just indeterminately swerve into a state of turbulence that destroys our minds, our bodies, ethics, and the gods themselves?

[1] See Henri Bergson. *Extraits de Lucrèce. Avec un commentaire, des notes et une étude sur la poésie, la philosophie, la physique, le texte et la langue de Lucrèce* (1883).

Instead, Lucretius offers a profoundly indeterminate ending to the poem and the end of the world in which no static gods live in between worlds. For Lucretius, the gods are just ideas in our minds. No gods, ideas, or arts can save us from suffering or the end of the world. Furthermore, for Lucretius, the swerve is an ongoing aspect of all material reality. This means that matter is fundamentally unpredictable and not under our physical or mental mastery. The world, including our bodies and minds, may swerve and become so turbulent that we cannot mitigate it with calm contemplation. Lucretius and Epicurus agree that there is no reason to fear what happens after death. But, for Lucretius, for whom the swerve is a much more significant and widespread aspect of nature, we still must confront the painful material process of being unwoven strand by strand.

Is this pessimism? I think not. For Lucretius, indeterminate dissipation through movement is the most fundamental feature of our world. It is the *nature* of things to course and flow.

All creations are iterations and patterns *toward dissipation*, but the birth of new worlds from the unraveled strands of the old ones is not a pre-given necessity. It is an indeterminate event. Accordingly, the poem ends with turbulence and indeterminacy. In my view, to conclude *De Rerum Natura* with happy thoughts of static gods, would be absolutely anathema to the poem.

Lucretius' theory of history and death in book five is not only consistent with the end of the poem and the poem as a whole, but with contemporary physical understandings in thermodynamics and quantum mechanics. "Progressive civilization is only one response to time's erosion. It sails upstream in the entropic river," as the French philosopher Michel Serres wrote in his book on Lucretius (Serres, 2018, p 153). What would it mean to go with the flow of nature, history, and death? This is what I would like to explore in this paper on "dark Lucretius."

The Nature of Death

What is the nature of the world? How did it begin, and how will it end? This is how Lucretius begins his materialist history at the start of book five. Nature is a constant *flow* of matter (*fluere omnia constat*) (5.280) that tends to spread out over time. As matter flows, it swerves, folds, and creates metastable *cycles* along the way. Therefore, the history of the world has two fundamental motions: flows and cycles, dissipations, and iterations. "Matters" (*corpora*) flow and "things" (*rerum*) cycle.

Every *thing* in our universe emerged at some point and will pass away. The cycle of creation and destruction is at the material heart of many mythopoetic traditions. For Lucretius, everything begins in the middle. Matter was not created and will not disappear. History, however, is born and will die. Matter flows and history cycles. Together they form a spiral meander, as depicted by the Minoans. Each spiral opens to and is opened by another. Creation and destruction proceed through one another unraveling toward their ultimate dissipation.

Figure 2.1 Minoan spiral meander

History, for Lucretius, is a history of *motion*. History is the shape of kinetic patterns traced out by the universe as it experiments with new ways to spread itself out, like a slice of butter melting into fatty dendrites over the surface of a warm pan. History is the flowing, folding, and weaving of matter into various patterns, rhythms, and textures. As such, it is not reducible to human history. Human history is only one set of emergent patterns in a much deeper cosmic movement toward the complete dissipation of the universe. The act of telling stories about the meaning and emergence of the world and human culture is a kinetic act that helps the universe spread out and dissipate its heat.

This paper aims to describe and expand Lucretius' claims about the central role of motion and death in natural history through a close reading of lines 91-234 of book five. I put forward here the core features of a theory of "historical new materialism," extracted from Lucretius' poem, against the human-centric, idealist, metaphysical, and mechanistic versions often espoused in the Western tradition[2]. In short, I would like to introduce the reader to Lucretius' startlingly contemporary and novel theory of history.

The Woven Way of the World

The first and perhaps most significant feature to point out in Lucretius 'theory of history is that it is "*woven*." What does this mean? It means that there is no blueprint or intelligent design that determines history. It also means that there are no mechanical laws of nature. All laws of nature emerged historically.[3] There is, to put it more dramatically, no such thing as "nature" or "the world" as a complete set of things in the universe because nature is not a *thing* but a *process*.

This is a genuinely incredible claim implicit in Lucretius philosophy: The world does not exist, but history does. Lucretius entirely subordinates nature to the historical process. There is no bit of nature unmoved or untouched by history, movement, and change. There are only processes iterated into metastable patterns that look like stable "laws," "causality," and "objects." In truth, there is only history in motion. This means that the world is not an object or set of objects, but an emergent pattern born from a cosmic weaving (5.91-96).

Quod superest, ne te in promissis plura moremur,
principio maria ac terras caelumque tuere:
quorum naturam triplicem, tria corpora, Memmi,
tris species tam dissimilis, tria talia texta,
una dies dabit exitio, multosque per annos
sustentata ruet moles et machina mundi.

For what remains, so that I not delay you any longer with promises,
begin by taking a look at the seas and lands and sky.

[2] This theory of history contributes to a new materialist understanding of history. For a review and discussion of new materialism, please see: Gamble, Hanan, Nail, 2019.
[3] For a contemporary argument that the laws of nature have changed over time, see Mangabeira Unger, Smolin, 2015. They argue not only that cosmology is an irreducibly historical discipline, but that this principle should drive the research agenda.

Their threefold nature, their three bodies, Memmius, their three
aspects so different, three such weavings,
a single day will give over to destruction, and the massive structure
of the world, sustained through many years, will come crashing down.

Water, land, and sky appear as distinct figures to us, yet they are but "folds" (*triplicem*) (5.93) "woven" (*texta*) (5.94) from the "first-threads" (*primordia*) of matter, Lucretius says. Each element has a different "aspect or figure" (*species*) (5.94) drawn from a broader process that is carrying them toward their destruction.

This is a striking way to start the birth of world history. We do not live in a world of discrete forms or objects but of interwoven aspects or figures folded up within one another. In just the first few lines of his history, Lucretius gives us the two laws of historical new materialism. Nature spreads out and hands the world over to destruction. It does this by experimentally folding and weaving each aspect into the others. It may sound counter-intuitive, but water, earth, and sky help unfold the universe faster than if the cosmos had merely tried to spread out evenly[4]. Just as water in a basin drains more easily through a spiraling vortex than it does without one, the world spreads itself out faster by iteratively unfolding through elemental turbulence.

Sea, earth, and sky are each made and remade *through one another*. Each is a different texture in the woven pattern of water-cycle, rock-cycle, and atmospheric-cycle. Each of these cycles helps dissipate the others. Each "weaves" (*texta*) and "unweaves" (*retextum*) the other. This is why Lucretius describes them as a "woven threefold" (*texta triplicem*) (5.93-94).

Furthermore, the threefold entanglement of Earth, sky, and sea follows a similar threefold complication of the flow, fold, and collision of matter more broadly. The Earth flows across the surface, the moon folds and cycles through the sky, as the sky and earth touch at sea. According to Archaic Greek poet Hesiod, indeterminate Chaos is born first. Everything born after Chaos is nested within it. Gaia is born and from her comes Ouranos (Sky) and Pontus (Sea). Each unfolds from the other. In archaic cosmology, then, Earth, sky, and sea are a threefold woven within the indeterminate flows of formless Chaos.

[4] See Thomas Nail, *Theory of the Earth* (Palo Alto, CA, Stanford University Press, forthcoming), chapter 14.

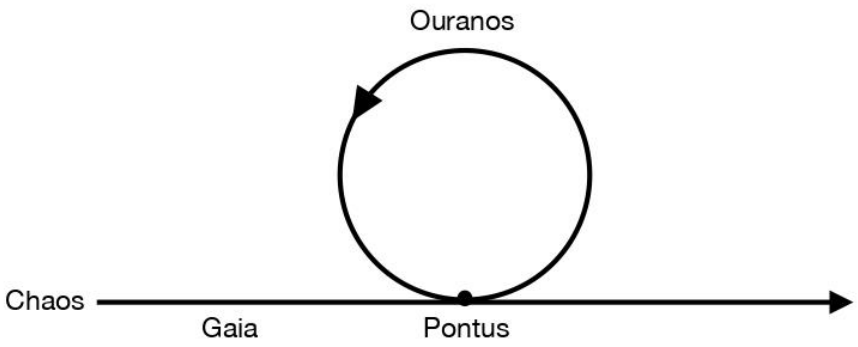

Figure 2.2 Diagram of Flow, Fold and Period, as Earth, Sky, Sea, as Gaia, Ouranos, Pontus

It is highly significant that Hesiod places the process of indeterminate Chaos at the beginning of his cosmology. If Chaos is first, then nothing that comes after can be genuinely static or fully self-identical. Everything else that becomes is related to process, change, and movement because Chaos creates the immanent instability within which all other Gods *move and change*.

This is why the Archaic Greek word *khaos,* which meant "gaping opening" takes on later historical definitions such as void, emptiness, chasm, space, and formless matter[5]. *Khaos* is perhaps one of the earliest Greek words that will later tie together the ideas of matter and motion against the logic of being and identity. Chaos is formless, being-less, empty, and yet *creative*. It is in motion and woven deeply into all of nature. Chaos is a *creative indeterminate void*. It has no form but is the immanent process within and by which forms come to be, metamorphose, and dissolve.

The primacy of Chaos has enormous consequences for archaic cosmology and influenced Lucretius' cosmology as well. This means that, at least for Hesiod and his tradition, there is no single, stable substance beneath the world of change and metamorphosis. It means that nature is an open-ended process of indeterminate mixture and hybridity. Chaos is the *primordial indeterminacy* from which the world is organized into regions and differentiated into various regions.

[5] See Henry G. Liddell and Robert Scott, *Greek-English Lexicon, With a Revised Supplement* (Oxford: Clarendon Press, 1996).

The idea of the swerve in Lucretius' philosophy is related to this idea of indeterminate primordial chaos. Lucretius says that the swerve is "*incerto tempore…incertisque locis*" or "indeterminate in time and indeterminate space" (2.218-219). The indeterminacy of the swerve is a rejection of all cosmologies that begin with eternal and static forms or gods. For Lucretius, there is no starting principle of the universe. Everything emerges through the indeterminate *process of history*.

Instead of thinking of history as being directed toward accumulation, development, and progress, Lucretius completely flips the script. World history is the history of dissipation and experimentation in the face of continual degradation. Everything is excess. The world is dying, and the Earth (sea, land, and sky) is here to help hasten it. We are all here to creatively advance the unweaving of the world by folding it again and again.

Return to the Delphic Oracle

The birth of a dying world is "a strange thing to contemplate," Lucretius says (5.97-98). The process occurs over such a long time that it feels "unworldly" to imagine. And yet, if we consult our senses carefully, we will see that everything around us follows the same tendency toward dissipation like water evaporates from our wet clothes in the sun.

Proving that the world will die is something "difficult…to prove conclusively with words," Lucretius says, and yet he must "speak out" (5.98-104). When we feel the Earth shake beneath our feet, we are made viscerally aware of the "massive movements of the earth" (5.106) and its tendency toward destruction. The Earth's movement means that even the most solid foundation is mobile and subject to change and decay.

The poet pays close attention to this process hidden in plain sight. For the third time in *De Rerum Natura* Lucretius connects his poetry to the oracle of Delphi (1.920-934; 4.1–4; 5.110-116).

Qua prius adgrediar quam de re fundere fata
sanctius et multo certa ratione magis quam
Pythia quae tripode a Phoebi lauroque profatur,
multa tibi expediam doctis solacia dictis,
religione refrenatus ne forte rearis
terras et solem et caelum, mare sidera lunam,
corpore divino debere aeterna manere,

Before I proceed to pour out sacred oracles about this thing
and in a much more certain manner than
the Pythia who speaks out from the tripod and laurel of Apollo,
I will unfold many solaces to you with learned words,
lest held in check and bridled by religion you by chance suppose
that the earth and sun and sky, sea, stars, and moon,
must abide in place forever, endowed with divine body.

What is the connection between historical materialism and oracular truth? These are undoubtedly strange bedfellows. Yet, Lucretius wants to bring them together in a way that transforms them. It is easy to read Lucretius as if he were criticizing oracular practice in favor of more the "rational" discourse of the philosophers. Yet, Lucretius 'explicit criticism of philosophical reason at 1.734–41 and his own claim to be "pouring out sacred oracles" (*fundere fata sanctius*) (5.110-111) complicates such a simple interpretation. Furthermore, we should recall that Lucretius likens his poetic-theoretical method to being stabbed through the heart by Dionysus' intoxicating *thyrsus*. This causes his "mind to bloom" with knowledge of the nature of things (1.920-934).

Figure 2.3 Dancing Maenad

What is going on then? Lucretius is relating his performative speech-acts about the nature of things to the Delphic oracle. What do his poem, nature, and the Delphic oracle have in common[6]? Lucretius "pours out" (*fundere*) (5.110) and "unfolds" (*expediam*) (5.113) his "sacred speech" (*fata sanctius*) (5.111) into the air just as nature flows and fold into things (*rerum*) and just as the rotting body of the dragoness Python flows out of Gaia and folds into turbulent fumes. The fumes and bitter laurels are then inhaled by priestesses, which let them speak the Earth's wisdom[7].

Figure 2.4 Oracle of Delphi, red-figure kylix, 440-430 BC, Kodros Painter, Berlin

The Earth (Gaia) speaks a material truth through the dissipation of volcanic fumes and plant intoxicants. The Delphic priestesses were called "bees" because of their connection to poetic-prophetic speech and Dionysus, whose rituals involved bees, honey, mead, and oracle. Lucretius, too, calls himself a bee (3.11).

[6] For an interesting treatment of the theme of oracles in Lucretius and Empedocles, see Campbell, 014), p. 38.
[7] The priestess of Pythia may have eaten and inhaled Oleander. See Haralampos 2014.

Poetry, nature, and the oracle are all performative and kinetic kinds of knowledge. They are not representations but rather materializations.

Unlike Epicurus, Lucretius embraces the prophetic tradition for its emphasis on the material, embedded, and performative nature of speech and knowledge. Knowledge comes from natural patterns and sensuous states of inspiration and ecstasy, not from abstract thought. However, Lucretius also embraces the poetic and philosophical tradition's emphasis on well-woven speech-acts that are "more certain" and clear than the theoleptic trances of the priestesses.

For Lucretius, reason does not oppose the senses. Reason is a kind of sensation, a blooming of the senses, that entangles the other senses (3.94-221)[8]. He says that the senses are paths that lead to the "serene oracular temple of the mind" (*sapientum templa serena; templaque mentis*) (2.8; 3.103) and the soul is a material movement in the body akin to the sweet smell of Bacchus 'flowers (3.221)[9]. For Lucretius, the soul is Dionysian because its death is creative, like Python and Gaia, Demeter, and Persephone.

In other words, Lucretius compares himself to the oracle at Delphi to emphasize the performative nature of his historical methodology. He is not representing nature but doing what nature is doing: weaving. He grounds his observation of the world's dissipation in the visible volcanic dissolution and evaporation of the Earth at Delphi. The oracle of Delphi was inside a mountain where volcanic fumes and fresh springs came up from the Earth. Python spoke the words of Gaia through the dissipation of the Earth into turbulent eddies of smoke. The priestess on her tripod sat above the fumes and inhaled the world's dying breath.

[8] See also Nail, 2020, Chapter 3 on the critique of kinetic reason.
[9] Lucretius also shows his methodological affinity to the poetic-philosophical tradition by referencing Empedocles. "[H]ighway of belief to the temple of the mind" is taken from Empedocles. See also Gale, 1994, pp. 59-64 on Lucretius' relationship to Empedocles.

Figure 2.5. *Priestess of Delphi* (1891) by John Collier,
showing the Pythia sitting on a tripod with vapor rising from a crack in the earth beneath her

The death of the Earth may sound depressing, but for Lucretius, it is liberating. If the world is dying, there is no divine judgment after the end of everything. There are no unchanging forms to imprison thought and reality. Humans are not cut off from the rest of nature but rather an expressive and creative part. This is why Lucretius 'says his words are a soothing solace (*solacia)* (5.113). His words free thought and action from the "bridled" (*refrenatus*) (5.114) and bound "*ligare*" (*religione*) (5.114) structure of unchanging forms and the hatred of the body and matter. If all of nature is dissipating and dying, then there is no fixed hierarchy of being or knowledge. The movement of history is freedom from fear, judgment, and dogmatism.

Gigantomachy: or why "I Hate the Pack of Gods"

For Lucretius, the world is a process of dissipation, and there is no punishment after death for being a materialist atheist. In this way, Lucretius reclaims the "earth-born" *Gigantes* of Greek mythology for his materialism, against Hercules and the Olympians, who tried to punish the Giants (5.117-121).

proptereaque putes ritu par esse Gigantum
pendere eos poenas inmani pro scelere omnis
qui ratione sua disturbent moenia mundi
praeciarumque velint caeli restinguere solem,
inmortalia mortali sermone notantes;

and therefore think it is right, just as in the case of the Giants,
that all those should pay the penalty for their monstrous crime
who by rising up to disturb the walls of the world
and who wish to extinguish the brilliant sun shining in the sky,
shamefully branding immortal things with mortal speech.

The Gigantomachy is not the same as the Titanomachy, in which the Olympian gods fought the older Titan gods, although the two are often confused. In his *Theogony*, Hesiod says the Giants were born from "all the bloody drops that gushed forth" when Chronos castrated his father, Ouranos. Gaia "received" the drops of blood as they hit the ground. As "the seasons moved round," Gaia bore the Giants (*Theogony*, 185). Venus was born from the falling semen and carried by Gaia as well. Together, Venus and the Giants were born from the hatred and castration of god.

In their ways, Aphrodite and the Giants threaten to undermine the hierarchy of gods in Lucretius' poem. As the "desire of men and gods" (1.1), Venus 'love introduced radical immanence into the world that traversed and suffused all of nature, mortal and divine.[10] As "monsters," the Giants 'strife also introduces radical immanence because it turned nature against itself in battle. The love of Venus and the strife of the Giants form an Empedoclean spiral. Empedocles believed that the cosmos expanded and contracted through the spiral movement of Love and Strife. The nature of the Earth (Gaia) is, therefore, to continually create and destroy. This is the strange way Lucretius turns mythology and the gods against themselves in what we might call his "*mythological naturalism.*"

The Giants, according to Lucretius, wanted to rise up (*ratione sua*) and destroy the gods just as Epicurus once "rose up" against the walls of the world (1.73 *moenia mundi*).[11] They wanted to create turbulence (*disturbent*) in the walls of the world by "branding immortal things with mortal speech." This is also what Lucretius says Epicurus did against the gods (1.73-74). The Giants, like the swerving of matter and the

[10] See Nail, 2018, Chapter 1.
[11] For a similar discussion of the Gigantomachy see Hardie, 2003, p. 188.

fall of blood from the sky, use turbulence against authority. When the gods impose their skyward authority to limits to nature's movement against monstrosity, the monsters rise up.

In Lucretius' description, the Giants are chthonic border crossers, criminals, mutants, who use their words as weapons against divine power and Herculean/Socratic military virtue. The Giants were depicted in ancient art with snakes for legs and were associated with volcanic and seismic activity. In particular, the Greeks believed that Giants lived under Mt. Etna, where Empedocles also lived and located strife.[12]

Figure 2.6 Winged Giant (usually identified as Alcyoneus), Athena, Gaia (rising from the ground), and Nike, detail of the Gigantomachy frieze, Pergamon Altar, Pergamon museum, Berlin

As serpent monsters under the Earth and enemies of the gods, the Giants are similar to other chthonic serpents such as Typhon, Echidna, and Python. The serpent body is a coiling, writhing, spiral body whose unpredictable swerving undermines the Earth from within and below.

Just as the Giants live underground and destroy the Earth through volcanism and Earthquakes, so does Python. This turbulence also fits Lucretius 'argument that earthquakes are direct sensuous evidence that Earth's foundations are in motion, unstable, and will eventually destroy the world.

[12] See ib., p. 133.

This is the world for Lucretius. It is a place that actively undermines its foundations through movement and will ultimately dissipate because matter swerves. For Lucretius, the world is, therefore, "anti-foundational" precisely because it is a material-kinetic *process*.

Process Materialism and Metastable History

World history is a process of dissipation and iteration. Nothing on Earth or in the heavens is static, unchanging, or divine, but all is in flux. This is Lucretius 'thesis. Even if there were creator gods, Lucretius argues, they would have no model for their creation unless the material patterns of nature had already existed.

This is an incredible inversion of Plato's cosmology in the *Timaeus*. There, Plato describes a universe created by a "divine craftsman" (*demiurge*). The craftsman looks to a perfect static model (*eidos*) and uses a defective material (*chora*) to create a copy. This copy is our moving cosmos.

However, Lucretius completely rejects the idea of a static model and provides an alternative history where there is only moving matter. Forms are emergent patterns in nature, not unchanging essences. For Lucretius, all creation in nature assumes an intense *historical* process of emergent patterns (*speciem*). The source of these emergent patterns is the habitual and indeterminate swerving of matter. Nature moves by "thoroughly changing itself and its distribution" (*permutato ordine*) to "create new patterns and forms of being" (*specimen natura creandi*) (5.185-186). Lucretius thus flips Platonism, idealism, and divine creation on their heads by suggesting that *matter is creative*. Even if there were gods, their intelligence would derive entirely from nature's movement, mutation, and original patterns.

History is thoroughly material and experimental. There is no divine plan or set of pre-existing natural laws to guide the movement of the universe. Without determinism or causality, history becomes relational and indeterminate. The swerve reigns supreme. Nature tends to dissipate and iterate, flow and fold, but it does not know in advance what the optimal way to do this is. It has to experiment with itself. This is history for Lucretius (5.187-194).

namque ita multa modis multis primordia rerum
ex infinito iam tempore percita plagis
ponderibusque suis consuerunt concita ferri

omnimodisque coire atque omnia pertemptare,
quaecumque inter se possent congressa creare,
ut non sit mirum si in talis disposituras
deciderunt quoque et in talis venere meatus,
qualibus haec rerum geritur nunc summa novando.

For so many first weavings of things in so many
rhythms, propelled by blows from boundless time until the present day
and impelled by their own weight, have been accustomed to being borne along,
and to sew together in all sorts of ways and to feel out all combinations,
whatever they are able to create when brought together among themselves,
that it is no wonder if they also fell into such arrangements
and settled into such movements, as these now by which
the sum of things bears by renewing itself.

History weaves together in so many ways, rhythms, and patterns because matter is "*habitually swerving"* (*declinare solerent*) (2.221). Matter is continually shape-changing and becoming-other as it flows along (*permutato ordine*…*specimen natura creandi*…*concita ferri*) (5.185-189). History is, therefore, genuinely creative and relational because matter is "actively colliding" (*percita plagis*) with itself (5.188) and sewing (*consuerunt*) itself into new moving patterns (*congressa creare*) all the time.

Material processes have no beginning and no end (*ex infinito iam tempore*) (5.188). They are neither created nor destroyed. However, history is the process by which the world of things (*rerum*) emerges, combines, and dissipates. Matter flows along (*concita ferri*) and folds or sews up (*consuerunt*) into things through "experimentation" (*pertemptare*). It "tries out or feels the pulse of" the rhythms of the "active collisions," without knowing or controlling them in-advance.

The weaving imagery in this passage is incredible. The first threads experimentally sew themselves together into various moving patterns, which then iteratively "support, bear, or wear" further patterns in an ongoing renewal. Nature is a cosmic weaver that wears or supports history like a shape-changing garment. History weaves and unweaves. It is destroyed and renewed like the death shroud that Penelope weaves in the day and unweaves at night in *The Odyssey*.

The Lady of the Labyrinth

Look around, Lucretius says, the world was not made *for us*. There is no evidence whatsoever for divine creation or the centrality of the human perspective. Even if we did not know about the first-threads (*primordia*) (5.195), we could easily use our senses to see how much turbulence there is in nature.

The Earth is not a static stage for human drama. Nothing stands still but is instead has unpredictable and often destructive movements. Everything our senses know suggests that nature loves to swerve (*declinare solerant*). We should not be shocked that the Earth flows all over the place without regard to our preferences (5.195-234).

The sky has "rapid and unpredictable motions" (*impetus*) (5.200), and the mountains, forests, ocean, and animals "desirously" (*avidam*) occupy the majority of the Earth (5.201). To be precise, humans are only .01% of the total biomass on Earth. It should be clear, looking around, that humans are latecomers to the planet and are only a tiny portion of it. Some areas are too cold, and others are too hot because severe frosts are "carried away by swift movements" (*aufert*) (5.205). Wild plants "wrap around and swallow up" (*obducat*) (5.207) everything unless humans actively resist it.

Even when humans try to grow plants, their crops are often destroyed by "rapid boiling movements of heat" (*torret fervoribus*) (5.215), or else they are "blasted by turbulent whirling winds" (*flabraque ventorum violento turbine vexant*) (5.217). Dangerous animals "violently disturb our safety" (*infestum*) (5.219), and illness is carried along (*adportant*) (5.221) by the seasons without warning. So much of nature's movements are unpredictable. Even death is like a vagabond wanderer, roaming and fluctuating here and there (*vagatur*) (5.221) striking without warning.

Every other baby animal seems better prepared to live on Earth than human babies. Humans have had the least time to adapt to the Earth so their children "pour and flow forth out" (*profudit*) (5.225) of their mother's wombs "onto the shores of light" without even the ability to walk. They are immediately "thrown like sailors on turbulent waves" (*saevis proiectus ab undis navita*) (5.222) and begin to wail. All Lucretius 'evidence for how nature is not *for* humans draws on fluid dynamic images related to the turbulent swerving and folding of matter.

This is also why Lucretius describes nature as *daedala* (1.7; 1.228; 5.233-234).

…quando omnibus omnia large
tellus ipsa parit naturaque daedala rerum.

…the earth herself and nature
the artificer of things provides everything in abundance for all.

The Latin word, "*daedala"* means "skillful maker" and comes from the Greek name Daídalos, the mythic creator of the Minoan labyrinth on Crete. Daídalos was based on the original creator of the labyrinth, or *Potnia*, as the Minoans called her. She was known as "the lady of the labyrinth."[13] She conducted one of the most important ceremonies in Minoan Crete: the labyrinth ritual. Archeologists believe that that labyrinth may have been the name of a place near Knossos where there was a cave cult site dedicated to *Potnia.*[14]

In the Homeric imagination, the labyrinth was a painted design on the ground where a ritual dance occurred. Young men and women performed the ritual by entering the folded labyrinth, spiraling towards one another, and then away in the epiphany of creation and destruction.

Labyrinth and meander images appear on an early seal from the Minoan palace of Haghia Triada, on a Mycenaean clay tablet from Pylos in the Peloponnese, on a painted plaster wall from the Minoan Palace of Phaistos,[15] and still others on late coins from Knossos dating from the Classical Greek period around 350 BCE.[16]

[13] In classical Greece, the title 'potnia' is usually applied to the goddesses Demeter, Artemis, Athena, Persephone, and Gaia. See "πότνια," in *A Greek-English Lexicon*, eds. Henry G. Liddell and Robert Scott (Oxford: Clarendon Press, 1996). See also: Dietriech, 2004, pp. 181-5.; Mylonas, 1966, p. 159; and Chadwick, J., Ventris, M., 1976.
[14] See Montecchi, 2016.
[15] See images in Montecchi, 2016.
[16] "On Crete in particular, we have several examples on seals and sealings from the EM II onward, in addition to the meanders depicted on a painted floor from the Palace of Phaistos, and on the fresco fragments from the Lower passage-way, just East of The Hall of the Double Axes, both dating to the MM III" (Montecchi, 2016, p. 170. Labyrinth," 170. See also Crowley, 2013, 124 I 123, 286 E 314; Militello, 2001, pp. 148-9, pl. A.2; Evans, 1921, pp. 356-7, fig. 256; and Morgan, 1995, pp. 43-44.

Figure 2.7

Silver drachma, Knossos, 300–270 BCE. Obverse: head of Hera, wearing ornamented stephanos, triple-pendant earring, and necklace; reverse: labyrinth, flanked by A–P, KNΩΣI(ΩN), of Knossians , below

What does this have to do with history? The original Minoan labyrinth ritual was a performance of the immanent processes of the flowing, folding, and weaving of nature related to the process of life, death, and rebirth. One would descend into the labyrinthine cave, drink a ritual beverage, worship, and then ascend back into the light of the world. Instead of *thinking* about the world as a changing substance or as a chaotic flux, the Minoans *performed* the world's folding and unfolding movement in the differential iteration of the labyrinth. The path of the labyrinth, like the spiral meander, moves inward folding over itself and then outward again just as many Neolithic seasonal and fertility rituals performed.

Homer fills his description of the Minoan labyrinth dance in the *Iliad* with images of weaving. He says that Hephaestus weaves [*daidala poiei*] and folds [*triplaka . . . ptukhes*] liquid flows of metal together to make Achilles' shield just as Daedalus wove the labyrinth dance floor of Knossos for the Minoan goddess of weaving, Ariadne (*Illiad*, 18.478–89). The name Ariadne was likely a later name for the Minoan *Potnia* of the labyrinth[17].

[17] See Kereyni, 1976.

What is the meaning of the Minoan labyrinth and Lucretius' reference to nature as "*daedala'*? It is a poetic image of nature as a process of folding, unfolding, and weaving. The labyrinth was not a place to worship transcendent forms, fixed substances, or chaotic flux[18]. It was an enacted knowledge of immanent processes. It was the incarnation of an understanding that nature is not for us alone. We are its threads. The labyrinth was not a maze but a spiral meander pattern that one's life follows. It was a performance of nature's turbulence and the human place in the cycle of creation and destruction.

As the dancers moved toward the center of the labyrinth, in Homer's story, they folded up in its tangled lines like the roots and branches of Crete's sacred groves and grottos. As the dancers enter the center, they "go to sleep" or "die" in *Potnia*'s fertile soil. The flows of life slow, curl up and become dormant in the ground. Death is the enfolding of matter into darkened earth-graves. All life comes from the Earth and eventually enfolds back into the soil. The Minoans planted their dead in the folded fetal position like seeds in the dirt, inside beehive tombs. Just as bees hibernate in winter and emerge in spring, "the Lady of the Labyrinth," who received "a jar of honey," guided the burial practice and gestured toward metamorphosis after death.

As Homer's ritual performers moved outward from the center of the labyrinth, they unfolded like seed sprouts. From the seed pod and the beehive, interred over the winter, came the plant, flower, and bee in the spring.[19] As a great admirer of Homer and Empedocles' poetry, Lucretius likely picked up on the shared spiral image of creation and destruction in both poems.

[18] See Thomas Nail, *Matter and Motion* (Chicago: Chicago University Press, forthcoming).
[19] "This is the 'year god', who dies and is reborn every year, and whose rebirth was celebrated in the mountain caves and probably also in the labyrinth of the temple- palace at Knossos" (Baring, Cashford, 2000, p. 135).

Figure 2.8 Minoan Double Axe

The two blades of the famous double-bladed ax held by the "lady of the labyrinth" likely expressed the two folds of the continual process of life and death, spring and fall, light and dark. In this way, the double-ax was a "visual palindrome,"[20] showing the flow of life into death and death into life.

With the phrase "*naturaque daedala"* Lucretius invokes the meandering process of nature that brings creation and destruction regardless of human struggle and without divine creation. Natural *daedala* creates everything in abundance *even death and destruction*. In this way, Lucretius completely overturns the idea of nature as lack and instead embraces a history of excess and generosity. The notion that nature is scarce is a limited human-centric perspective. Relative to human desires, certain things seem rare or lacking.

However, relative to nature, there is no lack and no scarcity. Lack in one region is surplus in another. Certain humans often think nature is a competitive war against all because they view nature as being-for-them. The lady of the labyrinth teaches another lesson with her spiraling meander: That the cosmos is excess and generosity.

[20] On the religious and symbolic meaning of the double axe, see Nilton, 1968, pp. 194-235; Marinatos, N., 1993, pp. 5, 49-50, 145, 235; Whittaker, 2016, pp. 109-14; Koehl, 2016, p. 471.

Conclusion: A Thermodynamics of the Plague

For Lucretius, history is the crystalline residue or footsteps left by the dissipation and iteration of matter. It is a woven and unwoven web stretched out across the universe like a cosmic labyrinth of mycelium. The *turbulence of material history* proves that the gods did not make nature for humans.

One fascinating perspective Lucretius brings to the study of history is his dramatization of it in the plague at Athens at the end of book six. For most readers, this is a shocking view of history and a dark way to end the poem. For Lucretius, however, it is a crucial feature of history. History is a process of destruction and death. Dissolution makes possible new creation and vice versa. However, all the creation and destruction in the universe tends toward destruction. This is what Lucretius 'description of the plague intimately drives home. There is no salvation or redemption. The process of material movement takes us to the end of things and the dissolution of knowledge.

Very few readers of Lucretius have liked or wanted to affirm this radical conclusion. Henri Bergson, Baruch Spinoza, and Gilles Deleuze are three of them. Yet, it is a central feature of Lucretius' historical materialism. For example, the great twentieth-century French philosopher, and interpreter of Lucretius, Gilles Deleuze, could not believe that *De Rerum Natura* could end with the plague. He writes,

> I fantasize about writing a memorandum to the Academy of the Moral Sciences to show that Lucretius 'book cannot end with the description of the plague, and that it is an invention, a falsification of the Christians who wanted to show that a maleficent thinker must end in terror and anguish. (Deleuze, Parnet, 1977, p. 15)

Deleuze was upset with the conclusion because he had developed a vitalist interpretation of the swerve as a "creative force," or "*conatus*" (Deleuze, 1990, pp. 266-279). So, Deleuze wanted to instead publicly propose conspiracy theories about the text's falsification rather than admit his vitalist interpretation of Lucretius does not fit with the book. Deleuze could not face the challenging Lucretian conclusion that, at the end of the universe, there is no vitalist redemption, no necessity of cosmic rebirth. There is no salvation, just an indeterminate swerve.

The American philosopher, Ryan Johnson is right to note that "in a way, this means that Deleuze thinks that Lucretius is not Spinozist enough. While Deleuze sees Spinoza's 'incredible book five' of his Ethics as an extraordinary thinking at infinite speeds that ends in the joyful affirmation of the world, *De rerum*

natura strangely concludes a book of immanence and pleasure with a gruesome picture of death and destruction" (Johnson, 2017, p. 14). If we think of Lucretius as only a philosopher of pleasure, affirmation, and life, then the ending seems "strange." However, if Lucretius is a philosopher of indeterminacy, dissipation, and iteration, then the end of the book is perfect.[21]

It is also important to note that the book's ending is not a summary of the poem. This fact also befits a book where dissipation, motion, and history are primary. There is no synthesis or summary of the world. The world spreads out and unravels without syntheses. Matter flows out until the world is gone.

Lucretius' universe is not a harmonious place of equilibrium where destruction *always* balances creation. Ontology is profoundly historical and asymmetrical because matter flows. Flow necessarily entails global dissipation and dissolution from higher energy to lower energy. The swerve is indeterminate, not random because matter always responds to what happened before. As such, what comes after is always slightly more spread out (globally speaking) than before. This is entropy. The world ends in death and dissipation. Lucretius was, therefore, much closer to contemporary understandings of physics than Spinoza was. Lucretius was correct that the sun will burn out and that the Earth, and all the planets, will eventually dissipate all their energy into space. With more recent knowledge of black holes, cosmologists mostly agree that supermassive black holes will eventually absorb all matter in the universe and then absorb one another. Over time everything in the universe will be broken down into quantum fluctuations of energy. After that, no one knows what will happen.

The universe may stay in this more or less scattered state of quantum flux for an incredibly long time. It is also physically possible that the vacuum fluctuations of energy may generate enough gravity to start pulling everything back together. Or more dramatically, it is also consistent with the standard model of particle physics that quantum fluctuations can suddenly alter the fundamental laws of the universe and create an entirely new universe with new laws. This is what physicists call "vacuum decay."

Of course, Lucretius does not discuss these possibilities, but at least his philosophy is not incompatible with them. Lucretius 'notion of indeterminacy (the swerve) and the existence of many worlds are entirely consistent with the known laws of quantum physics.

[21] The difference between Spinoza and Lucretius is also important as a historical reference point for the new materialisms. For those, like Jane Bennet and Elizabeth Grosz who trace their lineage to Spinoza, a similar vitalism results. Lucretius offers a different starting point.

One of the few who understood the importance of Lucretius' theory of history was Karl Marx. Marx explicitly described Lucretius' view of history as a "negative dialectic," opposed to the positive and synthetic dialectic proposed by Hegel. The "materialist dialectic" that Marx drew from Lucretius was not defined by developmental stages of historical progress but by the gradual process of dissipation and death.[22] "Thus dialectic is death," Marx writes, "death and love are the myth of negative dialectic" (Marx, Engels, 1975, p. 498).

Books five and six of Lucretius poem with their litany of turbulence and destruction hammer home the fundamental point that everything is unraveling. There are no gods, no forms, no essences, nor any form of salvation waiting to redeem our "progress" or "knowledge." Nothing is universal. Death remains for all, even the universe.
This is also a profoundly thermodynamic insight. The French philosopher Michel Serres was one of the few to see this clearly in Lucretius.

> We call this the second law of thermodynamics. It was not unknown to the Greeks, at least since Heraclitus. History, or the idea of history, is only the translation or transposition of this material principle…. Progressive civilization is only one response to time's erosion. It sails upstream in the entropic river. (Serres, 2018, p. 153)

For Serres, thermodynamic history is the material process of cosmic dissipation from a high concentration of energy to a low one. The idea of time is an abstraction derived from a more fundamental material feature of our universe. Virtually all human error stems from our fundamental misunderstanding about the nature of *history:*

> The increasing labor of humanity seeks to halt this irrevocability. There is progress, and no progress: history advances at the surface, while it recedes at depth. It heads upstream against a current that descends more quickly than it can advance. The difference is telling, the plague will return. (p. 155)

Just as we watch the plague painfully unravel the population of Athens bit by bit, history will unravel the world bit by bit. History is the plague of the world. Stars burn with fever then explode in a thousand pieces like the ulcerated body of the plague victim. The nature of things is no love fest. Progress, religion,

[22] See Nail, 2020.

and immortality are lies that only magnify our anxiety and hatred of a moving and dying world. The challenge is to die well and without fear of what happens afterward.

The plague exposes the woven finitude of the world. In the plague, we see intimately and sensuously, the base materiality of things. The plague reveals all idealisms and spiritualisms as profane material habits, nothing but habits. The gods do not come to the rescue. They do not relieve the intense physical suffering of the body. The plague diminishes and deranges the body so severely that the sick cannot observe religious rites, nor do they feel that such reverence has any worth. "Death filled up all the holy shrines of the gods with lifeless bodies…Nor indeed any longer was reverence of the gods or their divinity of much worth" (6.1272-1277).

The plague is terrible, but the sheer drama and suffering of the event also tell us something about the nature of things. The plague tells us that matter is woven and unwoven by the same stroke. It tells us that all will perish because all is material. Not religion, philosophy, science, or the arts will stop the terror or outlive the death of humans or the world.

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