

# **Episode Nineteen - All Things Are Not Made of Tiny Pieces of The Same Thing, Or Of All Things (Anaxagorus' Homoeomery)**

**Post by "Cassius" of May 14, 2020 at 8:54 PM**

Welcome to Episode Eighteen of Lucretius Today.

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

Before we start with today's episode let me remind you of our three ground rules.

First: Our aim is to go back to the original text to bring you an accurate presentation of [classical Epicurean philosophy](#) as the ancient Epicureans understood it, not simply repeat for you what passes for conventional wisdom about Epicurus today.

Second: We won't be talking about Epicurus from the point of view of modern political perspectives. Epicurus must be understood on his own, and not in terms of competitive schools which may seem similar to Epicurus, but are fundamentally different and incompatible, such as Stoicism, Humanism, Buddhism, Taoism, Atheism, and Marxism.

Third: We will be approaching Lucretius exactly as he intended, with the goal of understanding the fundamental nature of the universe as the essential base of Epicurean philosophy. From this perspective you will see that Epicurus taught neither the pursuit of luxury nor the pursuit of simple living, but the pursuit of pleasure, using feeling as the guide to life, and not supernatural gods, idealism, or virtue ethics. As important as anything else, Epicurus taught that there is no life after death, and that any happiness we will ever have must come in THIS life, which is why it is so important not to waste time in confusion.

Remember that our podcast home page is [LucretiusToday.com](http://LucretiusToday.com), where you can download a free copy of the versions of the poem we are reading, and our home for discussion of Lucretius and all other aspects of Epicurean philosophy is [EpicureanFriends.com](http://EpicureanFriends.com)

Now for today in this Episode 19, we will discuss how all things are not formed from tiny pieces of all things, which was the theory called "homoeomery" put forth by Anaxagorus.

Now let's join our discussion with Elayne and Charles reading today's text from Book One.

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Note: In previous episodes we have discussed:

- (1) **Venus / Pleasure As Guide of Life:** That Pleasure, using the allegory of Venus, is the driving force of all life; That the way to rid ourselves of pain is to replace pain with pleasure, using the allegory of Venus entertaining Mars, the god of war;
- (2) **The Achievement of Epicurus:** That Epicurus was the great philosophic leader who stood up to supernatural religion, opened the gates to a proper understanding of nature, and thereby showed us how we too can emulate the life of gods;
- (3-4) **So Great Is The Power of Religion To Inspire Evil Deeds!** That it is not Epicurean philosophy, but supernatural religion, which is truly unholy and prompts men to commit evil deeds;
- (5) **On Resisting The Threats of Priests And Poets:** That false priests and philosophers will try to scare you away from Epicurean philosophy with threats of punishment after death, which is why you must understand that those threats cannot be true; That the key to freeing yourself from false religion and false philosophy is found in the study of nature;
- (6-7) **Step One: Nothing Comes From Nothing.** The first major observation which underlies all the rest of Epicurean philosophy is that we observe that **nothing is ever generated from nothing.**
- (8) **Step Two: Nothing Goes To Nothing.** The second major observation is that **nothing is ever destroyed completely to nothing.**
- (9) **The Evidence That Atoms Exist, Even Though They Are Unseen.** The next observation is that we know elemental particles exist, even though we cannot see them just like we know that wind and other things exist by observing their effects.
- (10-11) **The Void And Its Nature.** We also know that the void exists, because things must have space in which to move, as we see they do move.
- (12) **Everything We Experience Is Composed Of A Combination of Matter And Void.** Everything around us that we experience is a natural combination of atoms and void.
- (13) **The Things We Experience Are Properties and Qualities Of Atoms And Void And Cease To Exist When Their Atoms Disperse.** All things we experience around us are either (1) the **properties** (essential conjuncts; essential and unchanging) or **qualities** (events; inessential and changing depending on context) of bodies. All these arise from the nature, movement, and combinations of the atoms, and cease to exist when the atoms which compose the bodies disperse. Therefore it is incorrect to think that ideas or stories such as that of the Trojan war have any permanent existence.
- (14-15) **Atoms Are Solid And Indestructible, And Therefore Eternal.** The argument that atoms are solid and indestructible and therefore eternal.

- (16) **The Atoms Are Never Destroyed**, they Provide Continuity To All Nature, and there is a strict limit on Divisibility of All Things.
- (17) **All things are not made of a single element, such as fire, as some philosophers assert** - such as Heraclitus, who asserted all things are made of fire.
- (18) **All things are not simply formed from the four classical elements (earth, air, fire, and water)** - here there reference is to Empedocles who was a great man, but greatly fallen.

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Here is the text that will be covered in Episode Nineteen. The Latin version of Book One has this as beginning at approximately line 829 of the [Daniel Brown Edition](#) and of the [Munro Latin Edition here](#).

There are a total of about 1115 lines in book one, so we approximately halfway through.

### **[Daniel Brown 1743 Edition:](#)**

[829] Now, let us inquire into the homoeomery of Anaxagorus, the Greeks so call it, but the poverty of the Latin tongue will not allow us to express it; but yet, by a short periphrasis, we can explain that thing which he calls homoeomery, and makes the principle of bodies. For instance, bones proceed from small and little bones; and flesh is made of small and little bits of flesh; and blood is formed of many drops of blood flowing together; and gold, he thinks, consists of little grains of gold; and Earth grows firm by particles of earth; fire is made of fire; water from water springs; and all things else, he thinks, from causes such as these arise.

[843] And yet this man in no case will allow in things a void, nor that there is an end to bodies being divided: he equally mistakes in both, and so do those sages spoken of before.

[847] Besides, the seeds he chose are much too weak, if of the same frail nature they consist, as do the things themselves, they equally fall to decay, and perish, nothing hinders them from death: for which of these can long hold out against the fierce jaws of death, and so escape destruction, crushed between his very teeth? Can fire? Can air? Can water? Which of these? Can blood? Can bone? In my opinion - none. All things in nature then would be equally liable to death, as are such things we see before our eyes by any force destroyed. But this, I think, is fully proved before, that nothing can fall to nothing, or from nothing rise.

[859] Besides, since food increases and supports the body, then we know the veins, the blood, the bones, consist of heterogeneous and parts dissimilar, as does our food. But if they say all food consists of parts various and mixed, and in itself contains the little strings of nerves and bones, and all the veins and parts of blood, then all dry meat and drink must needs consist of parts dissimilar, of bones, of nerves, of veins, and mingled blood.

[867] Further, if all things which grow from the Earth are in the Earth contained, the earth must consist of parts dissimilar, as do those things from which the earth arise. Now change the

theme, but keep the terms the same; in wood if flame and smoke, and ashes lay concealed, then wood must needs consist of parts of different frame.

[874] But here a thin evasion seems to shake this argument a little; and Anaxagorus himself makes use of it: he thinks all things are mixed with all things and lie hid, but that one thing only appears, of which it most abounds, and on the surface lies; but this reply is vain, and wide from truth, for then the little grains of corn, when ground, would show some signs of blood, or of some other parts which form our bodies; and when we wear the stones, the blood would flow. By the like reason herbs would sweat sweet drops of liquor, so delightful to the taste as flow from dugs of woolly sheep, and clods of crumbled earth would show the various kinds of fruits and herbs, and leaves distinct and hid in smallest particles within the earth. And then, in wood divided, might be seen concealed ashes and smoke, and smallest parts of fire. But since experience shows nothing of this appears, we must conclude there's no such mixture as this in things; but say, that common seeds of many things in various order joined, are mixed in every thing, and lie concealed.

[894] But oft, you say, upon the mountain tops, the heads of lofty trees that grow together are by the violent blasts of forcing winds so rubbed by close collision that they soon are all on fire, and flames shine out. 'Tis true, and yet there's no actual fire within the wood, but many seeds of fire, which by hard rubbing ignite, and so the wood is all in flames. For if so much of fire had lain concealed within the wood, this fire would have appeared immediately, and so consumed the wood entirely, and burnt its root branches to the ground.

[906] You see therefore of what concern it is, as we observed before, with what first principles those seeds are joined, and in what order placed, and what the motions are they give and take among themselves, and how the seeds remaining ever the same, but yet their order changed, produce a fire from wood; just as we write *ignis* and *lignum*, though quite different words, they are yet composed of letters much the same.

[914] Lastly, if things most obvious to the sense, you think, cannot be formed unless you make their seeds consist of principles the same in nature, those principles would be destroyed; you'd see some seeds would shake their little sides with laughing, and some bedew their face with tears.

[920] Now, what remains observe, attend me close. I know my theme is dark, but the great love of praise pricks on my heart with sharpest spurs, and strikes my soul at once with sweet desire of the most tuneful line; but this urged on, my mind in rapture, I haunt the Muses' seats, of difficult access, and yet untrod. I love to approach the purest springs, and thence to draw large draughts. I love to crop fresh flowers, and make a noble garland for my head; from thence, where yet the Muses never bound another's temples with a crown like mine. And first, I write of lofty things, and strive to free the mind from the severest bonds of what men call religion; then my verse I frame so clear, although my theme be dark, seasoning my lines with the poetic sweets of fancy, and reason justifies the method. For as the physicians, when they would

prevail on children to take down a bitter draught of wormwood, first tinge the edges of the cup, that so the childrens' unsuspecting age may be deceived, at least their lips, and take the bitter juice, thus harmlessly betrayed, but not abused, they have their health restored. So I, because this system seems severe and harsh, to such who have not yet discerned its truth, and the common herd are utterly averse to this philosophy, I thought it fit to show the rigid principles in verse smooth and alluring, and tinge them, as it were, with sweet poetic honey, thus to charm thy mind with my soft numbers, till you view the nature of all things clearly, and perceive the figure and order they display.

Munro

[829] Let us now also examine the homoeomeria of Anaxagoras as the Greeks term it, which the poverty of our native speech does not allow us to name in our own tongue; though it is easy enough to set forth in words the thing itself. First of all then, when he speaks of the homoeomeria of things, you must know he supposes bones to be formed out of very small and minute bones and flesh of very small and minute fleshes and blood by the coming together of many drops of blood, and gold he thinks can be composed of grains of gold and earth be a concretion of small earths, and fires can come from fires and water from waters, and everything else he fancies and supposes to be produced on a like principle.

[843] And yet at the same time he does not allow that void exists anywhere in things, or that there is a limit to the division of things. Wherefore he appears to me on both these grounds to be as much mistaken as those whom we have already spoken of above.

[847] Moreover, the first-beginnings which he supposes are too frail; if first-beginnings they be which are possessed of a nature like to the things themselves and are just as liable to suffering and death, and which nothing reins back from destruction. For which of them will hold out, so as to escape death, beneath so strong a pressure within the very jaws of destruction? Fire or water or air? Which of these? Blood or bones? Not one methinks, where everything will be just as essentially mortal as those things which we see with the senses' perish before our eyes vanquished by some force. But I appeal to facts demonstrated above for proof that things cannot fall away to nothing nor on the other hand grow from nothing.

[859] Again since food gives increase and nourishment to the body, you are to know that our veins and blood and bones [and the like are formed of things foreign to them in kind]; or if they shall say that all foods are of a mixed body and contain in them small bodies of sinews and bones and veins as well and particles of blood, it will follow that all food, solid as well as liquid, must be held to be composed of things foreign to them in kind, of bones that is and sinews and matter and blood mixed up.

[867] Again if all the bodies which grow out of the earth, are in the earths, the earth must be composed of things foreign to it in kind which grow out of these earths. Apply again this

reasoning to other things, and you may use just the same words. If flame and smoke and ash are latent in woods, woods must necessarily be composed of things foreign to them in kind. Again all those bodies, to which the earth gives food, it increases [out of things foreign to them in kind which rise out of the earth: thus too the bodies of flame which issue from the woods, are fed] out of things foreign to them in kind which rise out of these woods.

[874] Here some slight opening is left for evasion, which Anaxagoras avails himself of, choosing to suppose that all things though latent are mixed up in things, and that is alone visible of which there are the largest number of bodies in the mixture and these more ready to hand and stationed in the first rank. This however is far banished from true reason. For then it were natural that corn too should often, when crushed by the formidable force of the stone, show some mark of blood or some other of the things which have their nourishment in our body. For like reasons it were fitting that from grasses too, when we rub them between two stones, blood should ooze out; that waters should yield sweet drops, in flavor like to the udder of milk in sheep; yes and that often, when clods of earth have been crumbled, kinds of grasses and corn and leaves should be found to lurk distributed among the earth in minute quantities; and lastly that ash and smoke and minute fires should be found latent in woods, when they were broken off. Now since plain matter of fact teaches that none of these results follows, you are to know that things are not so mixed up in things; but rather seeds common to many things must in many ways be mixed up and latent in things.

[894] "But it often comes to pass on high mountains" you say "that contiguous tops of tall trees rub together, the strong south winds constraining them so to do, until the flower of flame has broken out and they have burst into a blaze." Quite true, and yet fire is not innate in woods; but there are many seeds of heat, and when they by rubbing have streamed together, they produce conflagrations in the forests. But if the flame was stored up ready made in the forests, the fire could not be concealed for any length of time, but would destroy forests, burn up trees indiscriminately.

[906] Do you now see, as we said a little before, that it often makes a very great difference with what things and in what position the same first beginnings are held in union and what motions they mutually impart and receive, and that the same may, when a little changed in arrangement produce say fires and a fir? Just as the words too consist of elements only a little changed in arrangement, though we denote firs and fires with two quite distinct names.

[914] Once again, if you suppose that whatever you perceive among visible things cannot be produced without imagining bodies of matter possessed of a like nature, in this way you will find the first-beginnings of things are destroyed: it will come to this that they will be shaken by loud fits of convulsive laughter and will bedew with salt tears face and cheeks.

[920] Now mark and learn what remains to be known and hear it more distinctly. Nor does my mind fail to perceive how dark the things are; but the great hope of praise has smitten my heart with sharp thyrus, and at the same time has struck into my breast sweet love of the

muses, with which now inspired I traverse in blooming thought the pathless haunts of the Pierides never yet trodden by sole of man. I love to approach the untasted springs and to quaff, I love to cull fresh flowers and gather for my head a distinguished crown from spots whence the muses have yet veiled the brows of none; first because I teach of great things and essay to release the mind from the fast bonds of religious scruples, and next because on a dark subject I pen such lucid verses overlaying all with the muses' charm. For that too would seem to be not without good grounds: just as physicians when they purpose to give nauseous wormwood to children, first smear the rim round the bowl with the sweet yellow juice of honey, that the unthinking age of children may be fooled as far as the lips, and meanwhile drink up the bitter draught of wormwood and though beguiled yet not be betrayed, but rather by such means recover health and strength; so I now, since this doctrine seems generally somewhat bitter to those by whom it has not been handled, and the multitude shrinks back from it in dismay, have resolved to set forth to you our doctrine in sweet-toned Pierian verse and overlay it as it were with the pleasant honey of the muses, if haply by such means I might engage your mind on my verses, till you clearly perceive the whole nature of things, its shape and frame.

Bailey

[829] Now let us also search into the homoeomeria of Anaxagoras, as the Greeks term it, though the poverty of our country's speech does not suffer us to name it in our own tongue; nevertheless the thing itself it is easy to set forth in words. First—what he calls the homoeomeria of things—you must know that he thinks that bones are made of very small and tiny bones, and flesh of small and tiny pieces of flesh, and blood is created of many drops of blood coming together in union, and that gold again can be built up of grains of gold, and the earth grow together out of little earths, that fire is made of fires, and water of water-drops, and all the rest he pictures and imagines in the same way.

[843] And yet he does not allow that there is void in things on any side, nor that there is a limit to the cutting up of bodies. Therefore in this point and that he seems to me to go astray just as they did, of whom I told above.

[847] Add too to this that he pictures his first-beginnings too weak: if indeed those are first-beginnings, which exist endowed with a nature like things themselves, which suffer none the less, and pass away, nor does anything rein them back from their destruction. For which of them all will hold out beneath strong pressure, so as to escape death in the very jaws of destruction? fire or moisture or breeze? which of these? blood or bones? Not one, I trow, when everything alike will be altogether as mortal as the things we see clearly before our eyes vanquished by some violence and passing away. But that things cannot fall away into nothing, nor again grow from nothing, I call to witness what I have before now proved.

[859] Moreover, since 'tis food that increases and nourishes the body, you may know that our veins and blood and bones [and sinews are created of parts alien in kind]; or if they say that all foods are of mingled substance, and have in them little bodies of sinews, and bones and indeed

veins and portions of gore, then it will be that all food, both dry, yes and liquid too, must be thought to consist of things alien in kind, of bones and sinews and matter and blood mingled together.

[867] Moreover, if all bodies that grow from out the earth are in the earth, the earth must be composed of things alien in kind, which rise up out of the earth. Shift this to another field, you may use the same words again. If in logs flame lurks hidden, and smoke and ash, it must needs be that the logs are composed of things alien in kind. Moreover, all the bodies which the earth nourishes, it increases [from things alien in kind, which rise up out of the earth. So too the bodies which logs emit, are nourished] upon things alien in kind, which rise up out of the logs.

[874] Herein there is left a slight chance of hiding from justice, which Anaxagoras grasps for himself, to hold that all things are mingled, though in hiding, in all things, but that that one thing comes out clear, whereof there are most parts mingled in, stationed more ready to view and in the forefront. But this is very far banished from true reasoning. For it were right then that corn also, when crushed by the threatening strength of rock, should often give out some sign of blood, or one of those things which are nourished in our body, and that when we rub it with stone on stone, gore should ooze forth. In the same way it were fitting that blades of grass too and pools of water should often give out sweet drops with a savour like the richness of the milk of fleecy beasts, and that often when sods of earth are crumbled, kinds of grasses and corn and leaves should be seen, hiding in tiny form, scattered about among the earth, lastly that ash and smoke should be seen in logs, when they were broken off, and tiny flames in hiding. But since facts clearly show that none of these things comes to pass, you may be sure that things are not so mingled in other things, but that seeds common to many things lie mingled and hidden in things in many ways.

[894] 'But often on mighty mountains it comes to pass,' you say, 'that the neighbouring tops of tall trees rub together, when the strong south winds constrain them to it, until at last a flowery flame gathers, and they blaze with fire.' And yet you must know that fire is not implanted in their wood, but there are many seeds of heat, which when they have flowed together through the rubbing, create fires in the forests. But if the flame had been hidden away ready-made in the forests, the fires could not have been concealed for any time, they would consume the forests one and all, and burn the trees to ashes.

[906] Do you not then see now, what I said but a little while ago, that it is of very great matter often with what others those same first-beginnings are bound up, and in what position, and what movements they mutually give and receive, and that the same a little changed with one another can create beams or flames? Even as the words themselves have their letters but little changed, when with sound distinct we signify beams or flames.

[914] Once again, if you think that all that you can descry in things clear to be seen cannot come to being, but that you must suppose first-bodies of matter endowed with a nature like the whole, by this reasoning you see the first-beginnings of things pass away. Nay, it will come to

be that they will be shaken with quivering mirth and laugh aloud, and wet face and cheeks with salt tears.

[920] Come now, learn what remains, and listen to clearer words. Nor do I fail to see in mind how dark are the ways; but a great hope has smitten my heart with the sharp spur of fame, and at once has struck into my breast the sweet love of the muses, whereby now inspired with strong mind I traverse the distant haunts of the Pierides, never trodden before by the foot of man. 'Tis my joy to approach those untasted springs and drink my fill, 'tis my joy to pluck new flowers and gather a glorious coronal for my head from spots whence before the muses have never wreathed the forehead of any man. First because I teach about great things, and hasten to free the mind from the close bondage of religion, then because on a dark theme I trace verses so full of light, touching all with the muses' charm. For that too is seen to be not without good reason; but even as healers, when they essay to give loathsome wormwood to children, first touch the rim all round the cup with the sweet golden moisture of honey, so that the unwitting age of children may be beguiled as far as the lips, and meanwhile may drink the bitter draught of wormwood, and though charmed may not be harmed, but rather by such means may be restored and come to health; so now, since this philosophy full often seems too bitter to those who have not tasted it, and the multitude shrinks back away from it, I have desired to set forth to you my reasoning in the sweet-tongued song of the muses, and as though to touch it with the pleasant honey of poetry, if perchance I might avail by such means to keep your mind set upon my verses, while you come to see the whole nature of things, what is its shape and figure.

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## Post by "Cassius" of May 17, 2020 at 10:59 AM

In this episode we got off onto a side discussion of Lucretius' reference to fires starting naturally from the tops of trees rubbing together in the wind. We discussed whether that actually happens or not, and went looking for links.

Here is one, but not authoritative: <https://www.quora.com/Can-a-forest-f...due-to-friction>

If anyone has any better info on whether this actually happens, please post.

<http://agritech.tnau.ac.in/agriculture/ag...forestfire.html>

**CAUSES OF FOREST FIRE**  
Forest fires are caused by natural causes as well as man made causes.  
• Natural causes- Many forest fires start from natural causes such as lightning which set trees on fire. However, man extinguishes such fires without causing much damage. High atmospheric temperature and dryness (low humidity) offer favorable circumstances for a fire to start.  
• Man made causes- Fire is started when a source of fire like stove, cigarette or lamp, electric spark or any source of ignition comes into contact with inflammable material.  
Traditionally, Indian forests have been affected by fires. This increase has been aggravated with rising human and cattle population and the consequent increase in demand for forest products by individuals and communities. Causes of forest fires can be divided into two broad categories: environmental (which are beyond control) and human related (which are controllable).  
Environmental causes are related to climatic conditions such as temperature, wind speed and direction, level of moisture in soil and atmosphere and duration of dry spells. Other natural causes are the friction of branches, snapping due to high wind velocity, and rolling stones that result in sparks setting off fires in highly inflammable and thin on the forest floor.

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<https://www.epicureanfriends.com/thread/1560-episode-nineteen-all-things-are-not-made-of-tiny-pieces-of-the-same-thing-or-of/>

## **Post by “Cassius” of May 23, 2020 at 3:31 PM**

Episode 19 of the Lucretius Today Podcast is now available.

<https://www.spreaker.com/episode/28144893>

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## **Post by “Paquin” of July 27, 2021 at 7:13 AM**

The discussion on causes of fires in forests was interesting. It reminded me of the local largely, beech forest where I often go walking. During the coronavirus lockdowns when I was hiking there a lot, there is one place where when we went off on a little-used path we started to hear these strange eerie calls as we climbed up out of the valley that gave me goosebumps. At first I thought it might be wild pigs as we discovered this amazing system of wallows just 20m above the main path that I had never known was there, but in the end we realised it was the sound of branches high up in the trees rubbing together in the wind, which down on the forest floor was a lot less noticeable. I have heard the noise again in that part of the forest and have never heard it anywhere else, so it seems to be a relatively rare phenomenon at least round my way, but I think that in the right circumstances e.g. drought and high winds, that the friction that produced those sounds could lead to a fire.

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## **Post by “Cassius” of July 27, 2021 at 7:40 AM**

It's interesting how that little bit of natural science speculation in Lucretius (that fire could be produced by trees rubbing together) could 'spark' so much interest.

I'm trying to think of what other almost offhand comments are similarly memorable -

We've recently had that interesting comment in the middle of the discussion of using fighting animals in war, all of a sudden turning to how that same thing might have happened on some other planet elsewhere in the universe.

Maybe we'll also find something similarly memorable when we finally get to the discussion of magnetism which must be coming up pretty soon, in the first half of book six, unless I somehow missed it in what we've covered already. At any rate I am certainly looking forward to [Martin](#)'s thoughts on that section when we get to it, as even today magnetism seems almost like magic. I glanced at the wikipedia article on magnetism and it seems a lot more like 'description' rather than an explanation of the mechanism, even today, suggesting that it will be interesting

<https://www.epicureanfriends.com/thread/1560-episode-nineteen-all-things-are-not-made-of-tiny-pieces-of-the-same-thing-or-of/>

to discuss what Lucretius had to say in comparison with this:  
[https://en.wikipedia.org/wiki/Magnetism...in\\_of\\_magnetism](https://en.wikipedia.org/wiki/Magnetism...in_of_magnetism)