Notes On Non-Religious-Based Objections To Darwin And Their Relation to "Evolution" Sections of Lucretius

Post by “Cassius” of May 30, 2020 at 6:56 AM

The purpose of this post is to set up a thread to discuss how our understanding of an "evolution" section from Book Four of Lucretius (Bailey) might by improved by considering some of the non-religious based arguments that were current among people who apparently were also reading Lucretius in the 1700's. First, the relevant section from Lucretius. (Note: the "lack of pattern" argument, that the universe could not have been created by supernatural gods, is probably relevant to this too.)

> Quote
>
> Herein you must eagerly desire to shun this fault, and with foresighted fear to avoid this error; do not think that the bright light of the eyes was created in order that we may be able to look before us, or that, in order that we may have power to plant long paces, therefore the tops of shanks and thighs, based upon the feet, are able to bend; or again, that the forearms are jointed to the strong upper arms and hands given us to serve us on either side, in order that we might be able to do what was needful for life. All other ideas of this sort, which men proclaim, by distorted reasoning set effect for cause, since nothing at all was born in the body that we might be able to use it, but what is born creates its own use. Nor did sight exist before the light of the eyes was born, nor pleading in words before the tongue was created, but rather the birth of the tongue came long before discourse, and the ears were created much before sound was heard, and in short all the limbs, I trow, existed before their use came about: they cannot then have grown for the purpose of using them.
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> But, on the other side, to join hands in the strife of battle, to mangle limbs and befoul the body with gore; these things were known long before gleaming darts flew abroad, and nature constrained men to avoid a wounding blow, before the left arm, trained by art, held up the defence of a shield. And of a surety to trust the tired body to rest was a habit far older than the soft-spread bed, and the slaking of the thirst was born before cups. These things, then, which are invented to suit the needs of life, might well be thought to have been discovered for the purpose of using them. But all those other things lie apart, which were first born themselves, and thereafter revealed the concept of their usefulness. In this class first of all we see the senses and the limbs; wherefore, again and again, it cannot be that you should believe that they could have been

created for the purpose of useful service.

This, likewise, is no cause for wonder, that the nature of the body of every living thing of itself seeks food. For verily I have shown that many bodies ebb and pass away from things in many ways, but most are bound to pass from living creatures. For because they are sorely tried by motion and many bodies by sweating are squeezed and pass out from deep beneath, many are breathed out through their mouths, when they pant in weariness; by these means then the body grows rare, and all the nature is undermined; and on this follows pain. Therefore food is taken to support the limbs and renew strength when it passes within, and to muzzle the gaping desire for eating through all the limbs and veins. Likewise, moisture spreads into all the spots which demand moisture; and the many gathered bodies of heat, which furnish the fires to our stomach, are scattered by the incoming moisture, and quenched like a flame, that the dry heat may no longer be able to burn our body. Thus then the panting thirst is washed away from our body, thus the hungry yearning is satisfied.

Next, how it comes to pass that we are able to plant our steps forward, when we wish, how it is granted us to move our limbs in diverse ways, and what force is wont to thrust forward this great bulk of our body, I will tell: do you hearken to my words. I say that first of all idols of walking fall upon our mind, and strike the mind, as we have said before. Then comes the will; for indeed no one begins to do anything, ere the mind has seen beforehand what it will do, and inasmuch as it sees this beforehand, an image of the thing is formed. And so, when the mind stirs itself so that it wishes to start and step forward, it straightway strikes the force of soul which is spread abroad in the whole body throughout limbs and frame. And that is easy to do, since it is held in union with it. Then the soul goes on and strikes the body, and so little by little the whole mass is thrust forward and set in movement. Moreover, at such times the body too becomes rarefied, and air (as indeed it needs must do, since it is always quick to move), comes through the opened spaces, and pierces through the passages in abundance, and so it is scattered to all the tiny parts of the body. Here then it is brought about by two causes acting severally, that the body, like a ship, is borne on by sails and wind. Nor yet herein is this cause for wonder, that such tiny bodies can twist about a body so great, and turn round the whole mass of us. For in very truth the wind that is finely wrought of a subtle body drives and pushes on a great ship of great bulk, and a single hand steers it, with whatever speed it be moving, and twists a single helm whithersoever it will; and by means of pulleys and tread-wheels a crane can move many things of great weight, and lift them up with light poise.

I start this note because of references to Thomas Browne of Edinborough in Frances Wright's "A Few Days In Athens" where she generally praises Browne but criticizes his denunciation of Epicurus (but apparently denunciation of Epicurean ethics rather than physics). This is

interesting to me because Browne was apparently against some elements of Erasmus Darwin. I've collected some references below.

Again, the main point of this post is to collect some references that help explain "logic-based" and "non-religious" theories of mechanisms of cause and effect involved in questions of origin and development of life. It seems to me that the translations of Lucretius on the sections devoted to this issue are murky, and an understanding of the logical issues will help in understanding these sections. I don't have time to start here an analysis of these issues but I think if there were / are non-religious based arguments about cause and effect and development of life then those are probably helpful to interpreting passages like:

"*All other ideas of this sort, which men proclaim, by distorted reasoning set effect for cause, since nothing at all was born in the body that we might be able to use it, but what is born creates its own use. Nor did sight exist before the light of the eyes was born, nor pleading in words before the tongue was created, but rather the birth of the tongue came long before discourse, and the ears were created much before sound was heard, and in short all the limbs, I trow, existed before their use came about: they cannot then have grown for the purpose of using them.*"

In the Epicurean context everyone is going to agree that these changes over time did not come about at the direction of supernatural gods, and we can put that contention aside. The issue is, among other things, "What logical and understandable suggestions were the Epicureans making to explain the non-supernatural development of faculties like eyesight?"

This is related to the theory of "Saltation." Does the Lucretian/Epicurean material imply a position on these issues?

Wikipedia:

In biology, **saltation** (from Latin, *saltus*, "leap") is a sudden and large mutational change from one generation to the next, potentially causing single-step speciation. This was historically offered as an alternative to Darwinism. Some forms of mutationism were effectively saltationist, implying large discontinuous jumps.

Prior to Charles Darwin most evolutionary scientists had been saltationists.[1] Jean-Baptiste Lamarck was a gradualist but similar to other scientists of the period had written that saltational evolution was possible. Étienne Geoffroy Saint-Hilaire endorsed a theory of saltational evolution that "monstrosities could become the founding fathers (or mothers) of new species by instantaneous transition from one form to the next."[2] Geoffroy wrote that environmental pressures could produce sudden transformations to establish new species instantaneously.[3] In 1864 Albert von Kölliker revived Geoffroy's theory that evolution proceeds by large steps, under the name of heterogenesis.[4]

With the publication of *On the Origin of Species* in 1859 Charles Darwin had denied saltational evolution by writing that evolutionary transformation always proceeds gradually and never in jumps. Darwin insisted on slow accumulation of small steps in evolution and wrote "natural selection acts solely by accumulating slight successive favourable variations, it can produce no great or sudden modification; it can act only by very short steps". Darwin continued in this belief throughout his life.[5]

Back to Browne of Edinborough:

Criticism of Erasmus Darwin

One of Brown's notable works included a critique of Erasmus Darwin's theory of transmutation. The philosopher published it in the form of a detailed study *Observations on the zoonomia of Erasmus Darwin* (1798), which was recognized as a mature work of criticism.[5]

There, Brown wrote:

> Quote
> As the earth, to a considerable depth, abounds with the recrements of organic life, Dr. Darwin adopts the opinion, that it has been generated, rather than created; the original quantity of matter having been continually increased, by the processes of animalization, and vegetation. This production of the causes of effects he considers, as affording a more magnificent idea of the infinite power of the Creator, than if he had simply caused the effects themselves; and, if the inconceivable be the source of the magnificent, the opinion is just. It is contrary, however, to all the observations, which prove the processes of animal, and vegetable growth, to be the result of new combinations of matter, previously existing; and it is also in direct opposition to the opinions, which Dr. Darwin has himself advanced.
> A body can increase in bulk, only by the farther separation of its parts, in expansion, or by the accretion of new parts. In the former case, no addition is made to the original quantity of matter; and it will surely be admitted, that nothing can accresce, which does not exist. The parts accreted, existing before their junction with the animal, must have formed a portion of the original matter of the world, or been called into being, in a new creation, not by the animal, to which they accresce, but by the great fource of animal existence.
> The immense beds of limestone, chalk, and marble, may have been, at one time, the shells of fish, and may thus have received a difference of form; but, unless the calcareous earth, of which they are composed, if that earth be a simple body, or its ingredients, if it be compound, had previously existed, all the powers of animation which the ocean contains would have been insufficient to create a single shell...
>
> The process of generation is said to consist in the secretion by the male of a living

> filament, and by the female of a nutritive fluid, which stimulates the filament, to absorb particles, and thus to add to its bulk: *At the earliest period of its existence the embryon, as secreted from the blood of the male, would seem to consist of a living filament, with certain capabilities of irritation, sensation, volition and association,*" *p. 484.* To say, that the filament is living, and that it possesses these powers, is to say, that it possess sensorial power, which is considered by Dr. Darwin, as the source of animation...
>
> Dr. Darwin seems to consider the animals of former times, as possessing powers, much superior to those of their posterity. They reasoned on their wants: they wished: and it was done. The boar, which originally differed little from the other beasts of the forest, first obtained tusks, because he conceived them to be useful weapons, and then, by another process of reasoning, a thick shield-like shoulder, to defend himself from the tusks of his fellows. The stag, in like manner, formed to himself horns, at once sharp, and branched, for the different purposes of offence, and defence. Some animals obtained wings, others fins, and others swiftness of foot; while the vegetables exerted themselves, in inventing various modes of concealing, and defending their feeds, and honey. These are a few of many instances, adduced by Dr. Darwin, which are all objectionable, on his own principles; as they require us to believe the various propensities, to have been the cause, rather than the effect, of the difference of configuration...
>
> If we admit the supposed capacity of producing organs, by the mere feeling of a want, man must have been greatly degenerated, or been originally inferior, in power. He may wish for wings, as the other bipeds are supposed to have done with success; but a century of wishes will not render him abler to take flight. It is not, however, to man that the observation must be confined. No improvements of form have been observed, in the other animals, since the first dawnings of zoology; and we must, therefore, believe them, to have lost the power of production, rather than to have attained all the objects of their desire.
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Noteworthy, Brown's criticism of the Darwinian thesis, like that of Rudolf Virchow, did not come from any religious feeling.

That in turn leads to RUDOLF VIRCHOW:

Anti-Darwinism

Virchow was an opponent of Darwin's theory of evolution,[81][82] and particularly skeptical of the emergent thesis of human evolution.[83][84] On 22 September 1877, he delivered a public address entitled "*The Freedom of Science in the Modern State*" before the Congress of German Naturalist and Physicians in Munich. There he spoke against the teaching of the theory of evolution in schools, arguing that it was as yet an unproven hypothesis that lacked empirical foundations and that, therefore, its teaching would negatively affect scientific studies.[85][86] Ernst Haeckel, who had been Virchow's student, later reported that his former professor said that "it is quite certain that man did not descend from the apes...not caring in the least that now almost all experts of good judgment hold the opposite conviction."[87]

Virchow became one of the leading opponents on the debate over the authenticity of Neanderthal, discovered in 1856, as distinct species and ancestral to modern humans. He himself examined the original fossil in 1872, and presented his observations before the Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte.[7] He stated that the Neanderthal had not been a primitive form of human, but an abnormal human being, who, judging by the shape of his skull, had been injured and deformed, and considering the unusual shape of his bones, had been arthritic, rickety and feeble.[88][89][90] With such an authority, the fossil was rejected as new species. With this reasoning, Virchow "judged Darwin an ignoramus and Haeckel a fool and was loud and frequent in the publication of these judgments."[91]

On 22 September 1877, at the Fiftieth Conference of the German Association of Naturalists and Physician held in Munich, Haeckel pleaded for introducing evolution in the public school curricula, and tried to dissociate Darwinism from social Darwinism.[92] His campaign was because of Herman Müller, a school teacher who was banned because of his teaching a year earlier on the inanimate origin of life from carbon. This resulted in prolonged public debate with Virchow. A few days later Virchow responded that Darwinism was only a hypothesis, and morally dangerous to students. This severe criticism of Darwinism was immediately taken up by the London *Times*, from which further debates erupted among English scholars. Haeckel wrote his arguments in the October issue of *Nature* titled "The Present Position of Evolution Theory", to which Virchow responded in the next issue with an article "The Liberty of Science in the Modern State".[93] The debate led Haeckel to write a full book *Freedom in Science and Teaching* in 1879. That year the issue was discussed in the Prussian House of Representatives and the verdict was in favour of Virchow. In 1882 the Prussian education policy officially excluded natural history in schools.[94]

Years later, the noted German physician Carl Ludwig Schleich, would recall a conversation he held with Virchow, who was a close friend of his: "...On to the subject of Darwinism. 'I don't believe in all this,' Virchow told me. 'if I lie on my sofa and blow the possibilities away from me, as another man may blow the smoke of his cigar, I can, of course, sympathize with such dreams. But they don't stand the test of knowledge. Haeckel is a fool. That will be apparent one day. As far as that goes, if anything like transmutation did occur it could only happen in the course of pathological degeneration!'".[95]

Virchow's ultimate opinion about evolution was reported a year before he died; in his own words:

> Quote
> The intermediate form is unimaginable save in a dream... We cannot teach or consent that it is an achievement that man descended from the ape or other animal.
>
> *— Homiletic Review, January, (1901)[96][97]*

Virchow's antievolutionism, like that of Albert von Kölliker and Thomas Brown, did not come from religion, since he was not a believer.[14]

Abert von Koliker:

Heterogenesis

Further information: Saltationism

In 1864 Kölliker revived Étienne Geoffroy Saint-Hilaire's theory that evolution proceeds by large steps (saltationism), under the name of heterogenesis.[7] Kölliker was a critic of Darwinism and rejected a universal common ancestor, instead he supported a theory of common descent along separate lines.[8] According to Alexander Vucinich the non-Darwinian evolution theory of Kölliker tied "organic transformism to three general ideas, all contrary to Darwin's view: the multiple origin of living forms, the internal causes of variation, and "sudden leaps" (heterogenesis) in the evolutionary process."[9] Kölliker claimed that heterogenesis functioned according to a general law of evolutionary progress, orthogenesis.[10]

Other Notes:

Probably should consider here too Nietzsche's "anti-Darwinism" (Atterton article, etc)