Episode One Hundred Fourteen - Letter to Herodotus 03 - The Starting Point of Physics

Post by “Joshua” of March 20, 2022 at 12:14 PM

Show Notes:

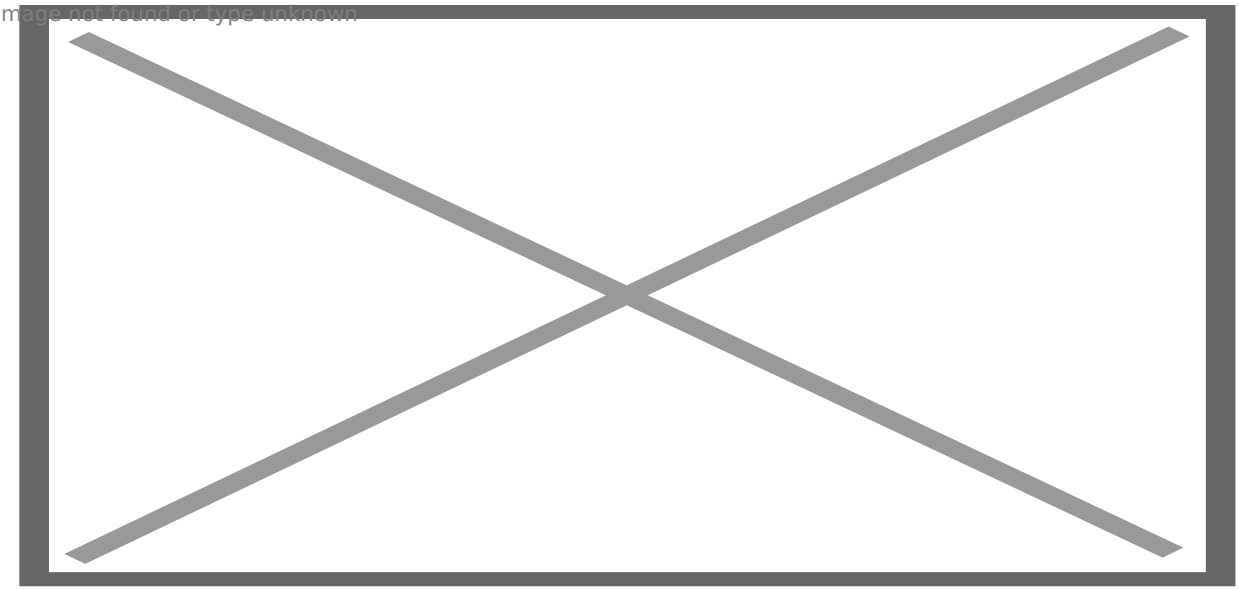
On "Primitive Tribes" and Observational Skills

Daniel Everett and the Piraha people:

https://www.youtube.com/watch?v=BNajfMZGnuo

On cave paintings and Renaissance art:

Image not found or type unknown



Cavemen Were Much Better At Illustrating Animals Than Artists Today
A new study finds that prehistoric humans correctly depicted the gait of four-legged animals much more frequently than modern artists
www.smithsonianmag.com

Acute observation necessary for survival:

https://www.survivalinternational.org/galleries/ingenious

Empiricism Vs. Poetry

John Keat's, *Lamia*:

> Quote
>
> [...] Do not all charms fly
>
> At the mere touch of cold philosophy?
>
> There was an awful rainbow once in heaven:
>
> We know her woof, her texture; she is given
>
> In the dull catalogue of common things.
>
> Philosophy will clip an Angel's wings,
>
> Conquer all mysteries by rule and line,
>
> Empty the haunted air, and gnomed mine—
>
> Unweave a rainbow, as it erewhile made
>
> The tender-person'd Lamia melt into a shade.
>
> Display More

Edgar Allan Poe, *Sonnet--To Science*

> Quote
>
> Science! true daughter of Old Time thou art!
>
> Who alterest all things with thy peering eyes.
>
> Why preyest thou thus upon the poet’s heart,
>
> Vulture, whose wings are dull realities?
>
> [...]

Walt Whitman

> Quote
>
> When I heard the learn’d astronomer,
>
> When the proofs, the figures, were ranged in columns before me,
>
> When I was shown the charts and diagrams, to add, divide, and measure them,

> When I sitting heard the astronomer where he lectured with much applause in the lecture-room,
>
> How soon unaccountable I became tired and sick,
>
> Till rising and gliding out I wander’d off by myself,
>
> In the mystical moist night-air, and from time to time,
>
> Look’d up in perfect silence at the stars.
>
> Display More

The Second Law of Motion

Newton's Three Laws of Motion

> Quote
>
> This is the most powerful of Newton's three Laws, because it allows quantitative calculations of dynamics: how do velocities change when forces are applied. Notice the fundamental difference between Newton's 2nd Law and the dynamics of Aristotle: according to Newton, a force causes only a change in velocity (an acceleration); it does not maintain the velocity as Aristotle held.
>
> This is sometimes summarized by saying that under Newton, F = ma, but under Aristotle F = mv, where v is the velocity. Thus, according to Aristotle there is only a velocity if there is a force, but according to Newton an object with a certain velocity maintains that velocity unless a force acts on it to cause an acceleration (that is, a change in the velocity). As we have noted earlier in conjunction with the discussion of Galileo, Aristotle's view seems to be more in accord with common sense, but that is because of a failure to appreciate the role played by frictional forces. Once account is taken of all forces acting in a given situation it is the dynamics of Galileo and Newton, not of Aristotle, that are found to be in accord with the observations.

Epicurus' postulated that all matter is in constant motion: this appears to place him closer to Newton's position (F=ma) than to Aristotle's (F=mv), but without gravity as a reference point (to say nothing of relativity) the question is largely academic. Aristotle proposed that the natural condition of matter was not inertia, but rest.

All things are born from their seeds

Spontaneous Generation

https://en.wikipedia.org/wiki/Spontaneous_generation :

> Quote
>
> The doctrine of spontaneous generation was coherently synthesized by Aristotle, who compiled and expanded the work of earlier natural philosophers and the various ancient explanations for the appearance of organisms, and was taken as scientific fact for two millennia. Though challenged in the 17th and 18th centuries by the experiments of Francesco Redi and Lazzaro Spallanzani, spontaneous generation was not disproved until the work of Louis Pasteur and John Tyndall in the mid-19th century.

John Tyndall striking a blow for Epicurus yet again!

In salamanders:

https://sdzwildlifeexplorers.org/animals/fire-s...%20the%20flames.