

paper 5.
ON INERTIA

Inertia - the resistance of a physical body, alive, dead, or machine to any change in its MOTION affects *every form of life & technology on Earth & in the larger Solar System even where all become weightless:* yet the underlying physical cause remains one of the greatest unsolved mysteries of human physical, bio sciences & tool/machine technologies.

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Three bodies physically constructed of atoms, a dead rock and two live bodies, free fall to new positions on Earth. After the fall the rock and one body is dead; the other body alive.

Note1. Only the live body (a living organism of whatever scale size) can of itself move its own physical body off its new position - *at a price.*

The price paid by every living organism, every working machine technology – more action, more effort, more work, more loss of thermal (heat) energy –r from a hotter part of its body to a cooler part or external environment (Second Law of Thermodynamics), than it would have been required if it had remained with the other two non living bodies in the new positions.

The two non living atomic bodies remaining in their new positions take least action, least effort, least work, least transfer of thermal (heat) energy from a hotter to a cooler part of their physical bodies or external environment.

***Why? Because all dead/non living bodies or material, having *no interests to protect or promote,* will always in the *absence of life's interests* take of all possible paths, The PATH OF LEAST ACTION, least physical resistance, of greatest economy.

Every human engineer knows an aircraft, being an artificial machine created by a form of life, us, free fallen to Earth will remain in its new position unless or until 'started, activated, and kept working'.

Starting, activating, working takes more energy, more effort, more work, more transfer of thermal (heat) energy than if the aircraft and its parts had remained, in whole or as broken parts where it has fallen.

Today it is customary to dismiss the existence of a 'life force' but none the less countless trillions of examples and repeatable experimental evidence tells us that i) only living organisms, ii) activated and working machines have the ability to physically force their own internal body contents off existing paths of least action/resistance/integral – at a price –r.

Thermal images tell us that a living organism or working machine loses/transfers more thermal (heat) energy than a dead organism or when not actively working.

Note: The struggle of an individual living organism to exert 'TOP DOWN CONTROL' over the 'pre disposition' of its own internal atomic and sub atomic physical parts to take their paths/trajectories of least action is one that begins immediately the individual organism is created by cell fission into two parts (non sexual) or cell fusion of two different parts (sexual) and continues until extinction.

The struggle for 'life self control' has so far lasted billions of years on Earth and from the first simplest of forms and will last until the extinction of all forms of bio life on Earth, possibly 5 or more billion years ahead. It is in effect a struggle that for living organisms or 'working machines', ANYWHERE AND EVERYWHERE in the Universe, can never be won, only lost with a final loss of 'control of self' or a machine cannot be re activated.

Note2. Inertia/Paths of Least Action gives us the underlying reason why for the resistance part (R) of Ohm's Law. $I=V$ over R.

All the internal nuclei and electron/waves in an electric cable move on hidden paths of least action, least resistance until a current is switched on. Almost immediately the internal contents appear to resist the flow of the current and the cable or heating element of bed warmers or kettles becomes warmer than it would be if the current were not switched on.

Note3: The Principle of Least Action was first put forward by the Frenchman Maupertis 1750. He however thought it applied to both living and non living Nature and never mentioned artificial (human created machines).

Newton's alternative idea of inertia as expressed in his First Law of Motion 1687 AD.

"Every object remains at rest or in a state of uniform motion in a straight line unless acted upon by a force".

The picture to the left is my home base. It is not 'at rest' because all non living internal parts are perpetually moving on their paths of least action at the same time, Earth, Solar System and local group of galaxies perpetually moving at minimum of some 14 MILLION miles per hour (over 6,000 kilometres per second per second) in the space direction of – The Great Attractor www.world-science.net/exclusives.

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