

CYBERNETICS AND THE ORIGIN OF LIFE; THE ORIGIN OF MATTER AND BLACK HOLES

Gihan Soliman

The Linnaean Society for Mineral Cybernetics, Leadhills, Scotland, ML12 1YA

ABSTRACT

Since abandoning Linnaeus' Kingdom Minerals as a living system, the philosophy of science has been fragmented into specialities and knowledge domains that fail to communicate across, effectively. Between the living and the so-called non-living systems, as well as social organisations, the value of Cybernetics as a reconciliatory medium towards a theory of everything has never been more significant. Each to their own jargon, biases and conflicting perspectives, cross-disciplinary science communication has become almost futile. Sciences claiming to present objective views, such as the famous $E=mc^2$, present the reality in flat linear formulas, while living systems are five dimensional, three dimensions representing the objectivity of situations, and spacetime which is the 'here and now', then the position of the observer, representing the perspective of the time in space or the space in time of the observation; without the position of the observer, even the third dimension cannot be realised, let alone the dimension of spacetime. This paper postulates the origin of life and matter from a Cybernetic perspective, uniting the laws of physics, and the Big bang theory with the String Theory. $E=mc^2$ as popularly presented, fails to refer to the role of information in the inter-reversibility of energy and matter. Information according to the theory of information is a message, a sender and a receiver and therefore requires an observer. Overlooking the role of the observer, therefore, is overlooking the role of information in system processes, presenting only a flat snapshot of reality. This paper explores the origin of life, conservation of matter, dark matter, and the fabric of spacetime while postulating a theory of everything from a Cybernetic perspective.

KEYWORDS

Cybernetics, reconciliation, origin of life, theory of everything, holistic, Linnaeus, observer, minerals

1. TEXT

The starting point of unravelling the origin of life - versus the origin of species, lies in the essence of 'attraction of gravity' [1]. As Darwin (1861) intercepts in his 'the origin of species';

It is no valid objection that science as yet throws no light on the origin of life. Who can explain what is the essence of the Attraction of gravity?

Unfortunately, modern biologists no longer concern themselves with gravity since abandoning Linnaeus' Kingdom Minerals *Regnum Lapidium* (1735) which spanned all the elements of nature known at the time: rocks, minables, fossils, and nutrients [2]. The difference between kingdom

minerals and modern geological minerals is in 'affinity' which Linnaeus thought, at the time, resembled the sexual affinity in plants [3]. Modern geologists treat minerals as inanimate. Nothing in our universe, however, is inanimate due to the continuous travel of energy in time and the subsequent entropy. Every single second, the earth (with all its inhabitants) moves about 30 miles as it orbits the sun, and 16.7 miles around its axis. Einstein's (1905) popular formula $E=mc^2$ shows us that matter and energy are equivalent with a difference [4]. This difference reveals the formative information of matter. The formula $E=mc^2$ is said to describe objects that have mass and that aren't moving (in a state of inertia): The only problem with this, is that the state of inertia is *practically* non-existent. As time itself interlocks with space in the fabric of spacetime, energy morphs to render new moments in space, and nothing, as a result, is still. This is where the full equation of $E^2 = (pc)^2 + (mc^2)^2$ of special relativity comes into light; where p represents the momentum of the object in question. The full equation shows that matter is a novelty compared to pure energy. Matter, as per the equation, is sealed in the formative information manifesting in entropy in spacetime [6]. The concept of entropy comes from the nature of information comprising a message, a channel, a sender, and a receiver [7] necessitating a minimum of one observer - without which (even) the third dimension may not be realised, let alone the dimension of spacetime. This, in turn, necessitates a fifth dimension defining the position of the observer when dealing with real-living systems; without that fifth dimension, information is unperceivable, uncommunicable, or calculable. In considering energy as the essence of the observable existence and matter as the other face of coin - with a difference, we would be able to consider and process the formative information of energy versus that of matter and check if they square out. From - and only from, a cybernetic perspective [8][9], they would; here's how:

The colours we see in the physical world are perceptions of how our eyes and brains interpret the light waves that reach our retina, while the sound waves that reach our ears cause resonance in certain objects or materials that have the same or a similar natural frequency. Mass, just like sound, and colour, is not an inherent property of matter, but a function of vibrational resonance displaying in the form of peer-affinity. This might explain why astronauts begin to lose bone mass in space over time [7] by the exposure to different vibrational forces - with the exposure to new masses and gravities. The change of bone density, is a change of its specific gravity and is not simply an adaptation as often portrayed. Unless we're reverting to Lamarckism, biological adaptations result from random genetic mutations that may get selected down generations, rather than acquired characteristics in response to environmental change. In other words, a random mutation must occur prior to the significant environmental exposure, then be selected, for it to be considered an adaptation [1b]. According to some studies, astronauts lose more than 1% bone mass per month spent in space, equivalent to how much bone mass they would lose in several decades on Earth. Using supplements, exercise, and resistance machines are found not fully effective.

Quarks, the building blocks of matter, display the properties of colour resonance and sound resonance albeit not visible or audible to the human senses on such quantum level. This means that quarks have both the properties of light waves and radio waves, underpinning the sensory macro-properties of particles as quarks interact and interlock in kin/peer-resonances. The string [8] theory does well, in this respect, by exploring the vibrational activity of matter, yet it falls short of exploring its relativistic role in the conservation of matter, and its complexity, in a way that corresponds realistically with our end perception. The string theory ends up theorising a 'graviton' particle of unknown nature to solve its problems, so to speak, rather than acknowledging the affinity or resonance factor amongst the quantum players to square up its unsolvable equations. Evidence of such a factor, presents itself in the behavioural change of quantum particles exposed to the so-called observer. In total disregard of the original observer in spacetime - who planned and monitored the experience then analysed its data, the experiment's

so-called observer (which is a measuring device) has to communicate with the particle so as to measure; resulting, at such a tiny scale, in quantum entropy - resulting, in turn, in a behavioural shift that cannot be explained by the laws physics. All the observable properties of matter including mass, shape, sound, and colour; nonetheless, stem, reasonably, from resonance and that would explain such behavioural shift. In other terms, the formative information of quarks, manifests in micro then macro affinities, equivalent to the sum of vibrational resonance or synergies in spacetime - as quarks interact with each other and interlock. Vibrational affinity, or resonance, is the conservation power of complex matter-structures; the other arm of natural selection, versus the destruction of the maladaptive. Resonance occurs on the quantum level, but manifests on the macro-level, to an observer, as bundles of information, light, and primordial sound flock together, while metabolising in display of entropy interchange.

In the beginning, then, there was energy and information in the form of vibrational waves of primordial light and primordial sound. The interaction, interlocking, and interception of varied frequencies birthed the fabric of spacetime at the hypothetical instance of the Big Bang. Mega energetic bundles of stars, galaxies, and planets morphed as light and cosmic microwaves continued to travel; slowing down at instances or accelerating at others, but ever in motion. As quarks formed new vibrational alliances, they morphed into new structures with various densities, displaying different levels of inner-stabilities. Less dense alliances formed organic structures that dissipate into circularity or self-replicate in kin-affinity, while stronger alliances formed geological phenomena, with the primordial ingredients perpetually circulating in nature. From here, natural selection takes the lead in conserving and/or destroying living systems, to shape the face of a four dimensional existence, until the formative information of the universe has been communicated to an observer and there comes the fifth dimension.

The primordial sound of quarks considered, it would account for so many unsolved mysteries of science and the origin of life; the origin of matter from pure energy; the formation of black holes - as resonating matter takes up space while the estranged matter secludes into colourless primordial noise bubbles, with mass equivalent to the non-synergetic aggregate of its invisible energy bundles (figure 1). It would also explain the phenomena of quantum entanglement and quantum superposition, reconciling quantum physics with the macro-world physics. It, additionally, lends the Big Bang its acoustic dimension and the String Theory its graviton. Finally, it accounts for the cosmic microwaves background filling the space of our universe, not as a remnant of a Big Bang but as a formative force of nature.

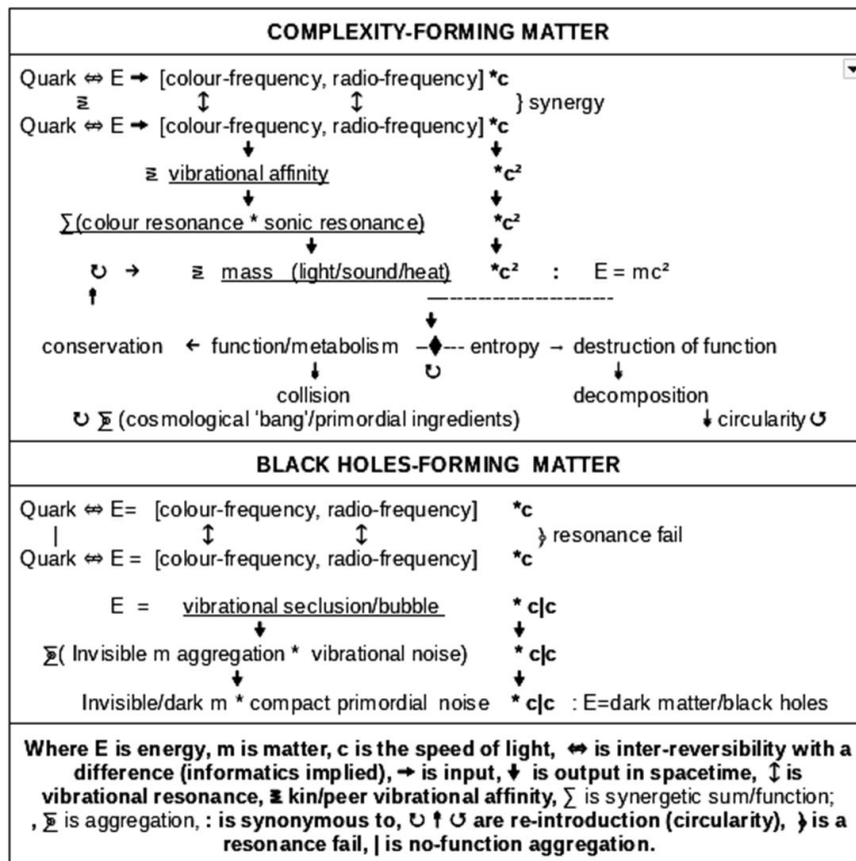


Figure 1. A Cybernetic Illustration of the Formation of Matter and Dark Matter

In this theory, the universe doesn't necessarily expand but possibly gyrates in a tug-of-resonance between matter masses taking up space, such as stars and galaxies, and dark-matter bubbles secluding away, forming black holes.

Such corresponds, unsurprisingly, with the intuition of Darwin when he postulated that the origin of life resides in gravity; and that of *Linnaeus* who postulated that minerals have affinities resembling the sexual reproduction in plants; and Adam Smith's 'invisible hand' proposition [10]. The term 'sympathy' and 'affinity' were used by the pioneer scholars to express the essence of conservation of complex systems yet were overlooked in a heated quest for the 'selfish' [11] reasons behind altruism and symbiosis.

2. CONCLUSIONS

It is not viable to depict real-living systems by disregarding the role and position of the observer. The formula $E=mc^2$ and its extension is a candidate for explaining the origin of matter and life only from a Cybernetic five-dimensional perspective spanning first, second, third dimensions, spacetime, and the position of an observer. Energy manifests in matter through resonance; colour resonance and sonic resonance. Resonance, the Cybernetic welding force of complex matter, gives rise to mass and gravity. Black holes are formed by the seclusion of estranged matter due to resonance failure. Due to its lack of synergy, estranged matter lacks colour manifestation while displaying mass equivalent to the primordial noise of its aggregate energy. Acknowledging resonance as a formative force - giving rise to affinity, giving rise to synergy, giving rise to the property of matter such as mass, colour, gravity, and sound; may resolve many mysteries and

paradoxes, such as kin/peer selection on multiple levels regardless of the mechanism of recognition; the inspired ‘invisible hand’ guiding the free markets; the inspired proposition of Darwin that the origin of life resides in ‘attraction’ of gravity; the phenomena of quantum superposition and quantum entanglement; and the formation of black holes. Affinity or sonic resonance would be the other arm of the natural selection seldom considered. The two arms of natural selection, in response to random mutations, are the conservation of viable systems boosting biological fitness, and the destruction of the maladaptive. Resonance is also a reasonable explanation of spacetime warping spacetime by bending light.

REFERENCES

- [1] Darwin, Charles. 1872. *The Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. 6th ed. London: John Murray. supplement page. P. 481 - 1.b) P 117. Page 365.
- [2] Linnæus, C. 1735. *Systema Naturæ. sive regna tria naturæ systematice proposita per classes, ordines, genera, & species*. – pp. [1–12]. Lugduni Batavorum. (Haak)
- [3] Linnaeus, C. 1802. *A general system of nature through the three grand kingdoms of animals, vegetables, and minerals; systematically divided into their several classes, orders, genera, species, and varieties with their habitations, manners, economy, structure, and peculiarities*. available at [https://openlibrary.org/books/OL23664250M/A_general_system_of_nature] accessed on 05/11/19
- [4] Bodanis, D. 2000. *E = mc²: A Biography of the World's Most Famous Equation* by Berkley Books
- [5] Einstein, A. 1905. Does the inertia of a body depend upon its energy-content. English translation of his original 1905 German language paper (published as *Ist die Trägheit eines Körpers von seinem Energiegehalt abhängig?*, in *Annalen der Physik*. 18:639, 1905) which appeared in the book *The Principle of Relativity*, published in 1923 by Methuen and Company, Ltd. of Londonby.
- [6] Einstein, A. 1920. *Relativity The Special and General Theory*. Translated by Robert W. Lawson. M.Sc. University of Sheffield. New York Henry Holt and Company.
- [7] NASA - Bone and Mineral Evaluation and Analysis. Available at: <https://www.nasa.gov/directorates/esdmd/hhp/bone-and-mineral-evaluation-and-analysis/#:~:text=Astronauts%20can%20lose%20up%20to,onset%20osteoporosis%20because%20of%20spaceflight>, visited on March 17 2023..
- [8] Sebastian, H. et al . 2013. "Forty Years of String Theory Reflecting on the Foundations". *Foundations of Physics*. 43 (1): 1–7 [2]. Bibcode:2013FoPh...43....1D. doi:10.1007/s10701-012-9691-3.
- [9] Umpleby, S.A. 2004. Physical relationships among matter, energy and information (Reprinted form *Cybernetics and Systems '04, 2004*). *Syst. Res. Behav. Sci.* 2007, 24, 369-372.
- [10] Foerster, H. 1995. “Cybernetics of Cybernetics: Or, the Control of Control and the Communication of Communication”. 2nd ed. Minneapolis, Minnesota: Future Systems.
- [11] Smith, A. 1776. "An Inquiry into the Nature and Causes of the Wealth of Nations," *History of Economic Thought Books*, McMaster University.
- [12] Dawkins, R, 1979. *The Selfish Gene*. Oxford University Press. pp. 189-201. pp. 12, 13, 14, 15.

ACKNOWLEDGEMENTS

The authors would like to thank everyone, just everyone!

AUTHORS

Gihan Soliman, BA, PGCE, MSc, RSci is an environmental scientist, founder and president of the International-Curricula Educators Association (2008), and founder of the Linnean Society of Mineral Cybernetics (2019), and a Trustee of the Permaculture Association Britain (2018).