Mathematical Locus of The Origins of Life

I specialize my Generative Tree framework [1][2] for mathematical properties yielding or corresponding to the potential of fitness (the Live-EuCeleration Potential) and the fitness (Live-EuCeleration) of biological origins and evolution. I develop a way to disentangle the mathematical Live EuCeleration Potential from total EuCeleration Potential for each of the mathematical properties- mathematical quantization and continuity, complexity, stochasticity and determinism, order and disorder, modularity, robustness, information, size and activity, internality and sensitivity and novelty with their definition schemata applied to mathematical structures of the primordial evolving systems. The highest Live-EuCeleration corresponds to intermediate values of these mathematical variables with their special plot being sub-plot of the maximal dome plot. The condition for system re-specification, like the origins of the Live EuCeleration, is the match in correspondence variables among evolutionary agents and the system including the variables above. The conjectures of Activity in all dimensions and Dynamism in terms of available variation imply a variety of Interactions within this variation at all levels. The classification of such interactions includes the ones that increase the above mathematical properties via canalization and/or concentration from causes and components to the outputs and combinations, or via propagation among corresponders or degradation of over-formed systems (reverse of canalization/concentration) , all needing to match in correspondence variables. This suggests certain traversing and reversing over the axes of the mathematical properties towards the Live EuCeleration maxima i.e. certain emergence of Live EuCeleration Potential and EuCeleration in at least some fraction of the primordial systems. Further, the Live-Euceleration emergence is intensified and stabilized at the optima by natural selection. Thus, the transition from alife to life optimized at intermediate mathematical properties seems certain for all evolving systems.

References.

1.Independent Research: Gore H.S., (2018) The Evolutionary Framework August2018
 DOI: 10.13140/RG.2.2.19492.94080

2.Poster: Gore H.S. (2016) "Random for a Reason: How Stochasticity is Fitter" At the Opening Workshop of Stochastic Dynamical Systems in Biology Programme, The Isaac Newton Institute for Mathematical Sciences, Cambridge University, UK.

 DOI: 10.13140/RG.2.2.28491.39208

Quantization and Atomization in the Origins of Life

Quantization:= $\sum_i (f \cdot s)_i$, where s is the ith step or quantum size and f is its frequency in the potential and instance system being evaluated for quantization degree. For atomized qualitative variables, s would be a natural number. Using my framework [1][2], I try to compare candidate quantizations for their fitness for function along with the connectivity among variants indicating evolvability. Using arbitrary unit sizes for polymeric macromolecules and such conformational rules I would specialize and illustrate the general result in the framework that family of such quantizations should have intermediate maxima of fitness for function over the quantization axis. Also, substituting varied validities of Activity in all dimensions and Dynamisms in terms of variation available I shall derive the specialized versions of automatic emergence and essential optimization. This shall indicate fitness of various quantization-atomization schemes with respect to the origins, stasis and evolvability.

[1]Independent Research: Gore H.S., (2018) The Evolutionary Framework August2018
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[2]Gore H.S. (2016) "Random for a Reason: How Stochasticity is Fitter"

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