

Quantum Bio-information Field Theory (QBFT)

Elsheikh, M.

Standard physics is blind because it does not envisage the physical properties and laws which distinguish life from non-life, so it infers that biological evolution is blind random process. Now quantum bio-information field theory (QBFT) reveals the biological evolution physical intelligent guiding principle which maximizes bio-intelligence as target criterion.

So what is quantum bio-information field theory (QBFT)?

A quantum bio-information field (QBF) is a cellular domain of biochemical interactions underpinned by electromagnetic field; it is a function over bio-information and time. QBFT is the study of biosystems (life) as a QBF subject to the maximum action principle. The QBF generates bio-information oscillations for successive generations which distinguish life from nonlife. Bio-information is not Shannon type of information, it is a measure of developmental functional complexity, and it has the dimensions of energy and information. The QBF is represented by a generalized Schrodinger type of system nonconservative, nonlinear and irreversible; it is periodic bio-information attractor (PBA), I call it the life-organizing principle. The phase of the PBA, by imposing downward causation, contains the dynamical essence of a bio-system because the rate of change of phase which is the rate of change of action is the driving force for bio-information (bio-complexity and gene expression). I call this relationship the maximum action principle because the rate of change of action is always positive all through the bio-system's lifespan. Moreover the phase is correlated to the system's bio-intelligence; bio-intelligence is the capacity to generate functional structures and has the dimensions of action information and time. Bio-intelligence, like energy, is conserved and quantized, unlike energy it is subject to the maximum action principle instead of the least action principle.

According to QBFT the origin of life is the origin of bio-information. Bio-information originates when oligonucleotides and oligopeptides undergo reciprocal autocatalysis subject to the maximum action principle, i.e., arrangement of nucleotides along a path of maximum action and maximum bio-information. Such subjection is a necessary condition for generating meaningful genetic code. A genetic code is meaningful if it produces viable functional proteins.

Thus the QBF's equations describe biotic development and evolution, for example cellular differentiation is a process through which transcription factors activate certain

gene expression(s), and it follows based on the activation the PBA undertakes negative damping which maximizes the system's bio-intelligence. Micro-evolution (beneficial adaptive mutation which overcomes certain stress) is a process through which a maximum action potential, which is phase difference, restructures a genome to regain its initial appropriate bio-intelligence stationary functional state. Moreover, natural genetic engineering (James Shapiro) is a process through which the PBA undertakes negative damping; in consequence macro-evolution exhibits power law distribution of bio-intelligence in agreement with Bak-Paczuski's self-organized criticality.

Suffice to say QBFT is original, consistent, empirically falsifiable, and full of predictions, unifies physics with biology by revealing the physical properties and laws which distinguish life from non life, the QBF's equations unify phylogeny with ontogeny, transcends orthodox Darwinists and creationists by showing that evolution is intelligently guided by natural laws. It admits limiting transition to linear reversible quantum mechanics. It provides theoretical support for Barbara McClintock and James Shapiro's revolutionary discoveries concerning natural genetic engineering (NGE) according to which bio-systems are self-organizing and self evolving systems. Therefore a new paradigm is emerging according to which evolution is NGE and natural selection as mechanism and the maximum action principle as driving force which maximize bio-intelligence.

Sum publications:

1-<http://link.springer.com/article/10.1007/s40974-016-0010-2>

2-<http://bookstore.iuniverse.com/Products/SKU-000693619/Discovery-of-the-LifeOrganizing-Principle.aspx>