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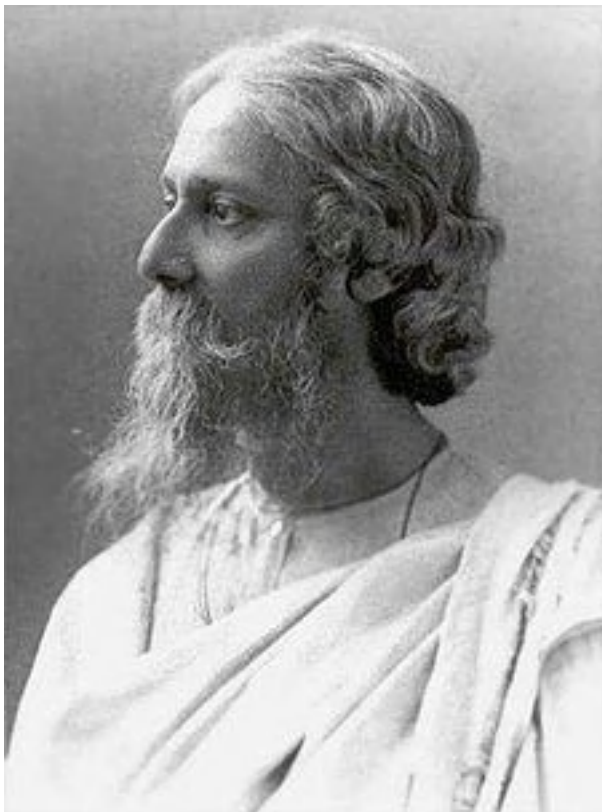
# RABINDRANATH TAGORE'S GITANJALI AS EXPRESSIONS OF UNIVERSAL CONSCIOUSNESS AND THE NUCLEAR SUBSTANCE OF SURRENDER TO THE PRIMA-MATRA OF CREATIONAL EXISTENCE

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"I REGARD CONSCIOUSNESS AS FUNDAMENTAL. I REGARD MATTER AS  
DERIVATIVE FROM CONSCIOUSNESS. WE CANNOT GET BEHIND  
CONSCIOUSNESS. EVERYTHING THAT WE TALK ABOUT, EVERYTHING THAT  
WE AGREED AS EXISTING, POSTULATES CONSCIOUSNESS"- MAX PLANCK,  
THE OBSERVER, 1931

'A VAST SURRENDER WAS HIS ONLY STRENGTH'- SRI AUROBINDO, SAVITRI

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Gitanjali by Tagore was published in the year 1913, a significant year in the history of sciences and arts and, indeed, in world culture as well. Niels Bohr came up with quantum theory of hydrogen atom in the same year following from the result shown by Rutherford's Gold Leaf Spectroscope experiment that theorized the concept of a nuclear model of atom. Do these two events have some degree of connection as with other events too happening in the same year or era? Let us explore.

At that point of time in the early 20<sup>th</sup> century, the direction in physics was at the micro-level or bulk-level and an

understanding of that with verifiable experiments and observations in a controlled environment. Bohr postulated that atoms consist of negatively charged particles (electrons) that follow circular orbits round a positively charged nucleus. This verification of electrostatic forces including positive and negative charge distribution

over a matrix together with quantum statistical analysis led to the recognition of hidden forces that operate and govern our universe and creation. Scientists previously thought that gravitational force was the only operating force in the creation, but, at the micro-cosmic level or atomic level there are other forces that bind a particle with another one, there are electromagnetic and strong and weak nuclear forces that too operate randomly in the creation. At a psychological level, there was a need to observe or understand the physical phenomena taking place in the external world at a particle level to understand the components interacting in such a given system and the laws or principles that determine such processes.

When Tagore writes “Ah, the light dances, my darling, at the centre of my life.../ নাচে আলো নাচে ও ভাই, আমার গণের কাছে (poem 57) – he is expressing his emotions at the cellular level, or from a particle level. The concept that light can dance is embedded in his poetry, therefore, he too was postulating from an aesthetic stand point the wave theory of light proposed by Huygens competing with the particle theory proposed by Newton. In a way, Tagore dealt with this wave-particle duality almost across all his poems and tried to reconcile it into one grand force by offering his songs (git-anjali) to that unified matter or pure substance which is nothing but consciousness that precedes all actions in the creation.

Therefore, we can say as Physicist Amit Goswami has said “Consciousness is the ground of all being”.

“The sky opens, the wind runs wild, laughter passes over the earth/জাগে আকাশ, ছাটে বাতাস, হাসে সকল ধরা...” (Gitanjali)

Each of these expressions, the opening of the sky, the wild wind running across and laughter that passes over terrestrial surface are scientific images understood from the thermal and bio-geochemical cycles that we experience on earth; they are forces that account for the kinetic movement of the words in a verse; the song is itself a movement having a definite vibration ; a hymn is an offering of prayer to the altar of these unified forces that we try to classify and measure; poetry here is a reconciliatory process of union through the manifested bio-diversity in the universe to explain actions at a local point, or at the centre of the spiritual mandala (the nucleus) that holds the secret of the origin of origins in the frame of a higher consciousness.

Each of these images are not a sum total or summation of collective experience over a period of time, but, rather they are fleeting moments that holds in its capsule the essence of a higher existence in the Sat domain of Sat-Chit-Ananda. After all, the scientific discoveries led to change in human behaviour and thinking, it was done for the man universal without any preference of caste, creed, religion, language or gender. The songs are itself a process of self-discovery that leads to realisation (chitta-suddhi/purification) which gives the primary bliss of existence. The invocation to light is an invocation to matter to open the doors of perception to cleanse it continually so we can taste the fruit of immortality because “the earliest formula of Wisdom promises to be its last, - God, Light, Freedom, Immortality”. (Sri Aurobindo)

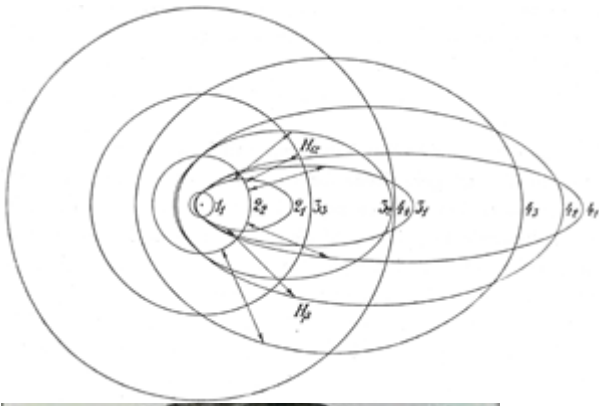
The Newtonian motion in Tagore's lines encapsulates the prophetic fire of Zoroaster and quoting Nietzsche "your god is dead and only the ignorant weep. And if you claim there is hell, then we shall meet there!" is a kind of finer salutation to the will-power/force that has driven man to endless discoveries sometimes astonishing himself with awe and inspiration. But since Tagore offered his songs to the creation, to the great temple of these forces – he, in fact, was the first symbol of the transcendental nature of the universal faculty in man that can create an original idea or observe the process of transformation in molecules when they are interacting during chemical combinations.

Each word when selected from a repository – a kind of quantum hyperspace in an individual monogram is therefore actively engaged to enter into combination with other words to derive a pattern that can signify the law of conservation of mass and energy. There is consciousness behind all these- the vowels link with consonants to connect the infinite with the finite, to the open system with closed ones, to spirit with matter. "A hyphen must connect Matter with Mind" (Sri Aurobindo, Savitri, Book I, Canto IV)

At a physical level, Tagore was trying to express the effect of light at both the horizontal and vertical domains, the great taxonomical bio-diversity of plant and animal life together with inanimate particles like wind, river, earth, gems etc. Each in its own right experience enlightenment because light is consciousness is love is existence. The core idea of a universal being and the happiness he shares with the internal and external worlds, is a kind of energy conservation, one that is equivalent to quantum psychokinesis that exist in the metaphysical realm of language deconstruction and in linguistic harmony of image-expressions or montages.

The lilies, the jasmines and the butterflies all reflect some potential signified that react to the wave of light that falls on them, their reactions are natural synthesis of laws that operate in a given frame of consciousness at a given time. Different consciousness is available at varying time-gaps, there is a pattern or grid-map that can be constructed from their expressions but there is no overlying principle to pin them into one thing. Butterflies may stand for liberty in mind opposed to bondage, death and ignorance; they may stand for romantic imagination invoking the spirit in mind-matter webula or they can be simple observatory phenomena of natural co-existence that determines universal laws of biological evolution in the creation. Similarly, lilies stand for purity of thoughts, virginity of ideas that may trace back its route to the prima matra- or the first matter, unviolated and pure, free from any legislative principles of governance. "The divinity of Man the Eternal", is the main thread that connects words with images and images with objects in the external world with a definite bearing of reflection it has on the mind-screen of the individual. Jasmines are flowers that carry the elegance and the beauty of gratitude and surrender that comes to the individual when he interacts with the nuclear atomic world and the expanding holographic universe.

Analytically, Gitanjali is an offering of a higher dimension to the creative unity of forces which physicists are still trying to observe and write down as far as history of sciences is concerned. This quest for unification of forces in Physics from Newton to Maxwell



through to Einstein is a classic example of the philosophical ground of realism that makes man think or write or paint what he

understands by living in environmental stimuli based system of complex processes.



“The light is shattered into gold on every cloud, my darling, and it scatters gems in profusion.../ মঘে মঘে স্নানন্ত ভাই যায়না মানিক গালা – in terms of consciousness, Tagore was experimenting with language as emotions multiply the process of image formations at the sensual level to accompany the individual learning and emancipation of that knowledge at a universal level. It was the closest linguistic demonstration we have of the Rutherford’s Gold Leaf Experiment (1911) that showed the backscattering and deflection of alpha-particles when shot through a gold foil. This proved that

positive and negative charges are spread evenly in the atom and that the electrons holding negative charge orbits the nucleus at a distance.

The densest portion is therefore found to be the nucleus of an atom that holds the ‘mirth’, a positive charge that may lead to defining principles of happiness in a reactionary state. Tagore expresses this as ‘gladness without measure’ or the ‘flood of joy’ – a state of infinite being (microscopic model of Hubble’s expanding universe), a sense of micro-gravity experience in a certain time frame of consciousness. In another poem 62, he says, “My world will light its hundred different lamps with thy flame and place them before the altar of thy temple”. The temple is located as the nucleus of the atom where mass is concentrated, it’s the seat of the ‘purushah’, the Brahman, “the supreme Reality of Man, which is divine”, the shakti or the electrons orbits around it with a half-integer spin.

“The same stream of life that courses through my veins night and day runs through all the world and dances in rhythmic measures”. (Poem 61)

It’s this same stream of life that dances in rhythmic measures that Tagore talks about is what is referred by scientists as ‘quantum-entanglement’, a state when a change in a particle affects all other particles irrespective of distance and time between them.

From a linguistic point of view, we can say that words affect words as they are connected to the psyche that generates emotions from an experiential time - it's the consciousness of the indivisible particles that trigger the change so the dance takes uniformity of thoughts in a singular vision to adjust its camera-lens settings to take innumerable snapshots from reality to compose simultaneously the songs or hymns that make Gitanjali what it is an 'offering' to itself and to the great alter of these forces.

When we learn to explore events in history, we find that two identifiable different events are readily interconnected in time through the underlying descent of consciousness in matter and at the same time through the cyclical process of ascent of consciousness that conjoins with the earlier to transfigure human civilisations for a better living. This is simply the evolutionary biology at work both at a psycho-kinetic level and at a nuclear level through the poetry of Rabindranath Tagore and through the path breaking scientific works of Rutherford, Niels Bohr, Einstein, Satyendranath Bose, C V Raman, Pauli, Dirac etc.

- **Joy Roy Choudhury, 25<sup>th</sup> May, 2012**

Ref: Fig 1.1 Rabindranath Tagore; Fig 1.2 Niels Bohr Atomic Model; Fig 1.3 Niels Bohr