

# The Importance of Non local Communication with special reference to biological systems

Monendra Grover\* and Rajesh Kumar<sup>1</sup>

\*Corresponding Author, Centre for Agricultural Bioinformatics, Indian Agricultural Statistics Research Institute, Pusa Campus, New Delhi -110 012, email: monendra\_grover@yahoo.com  
1: National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi, 110012

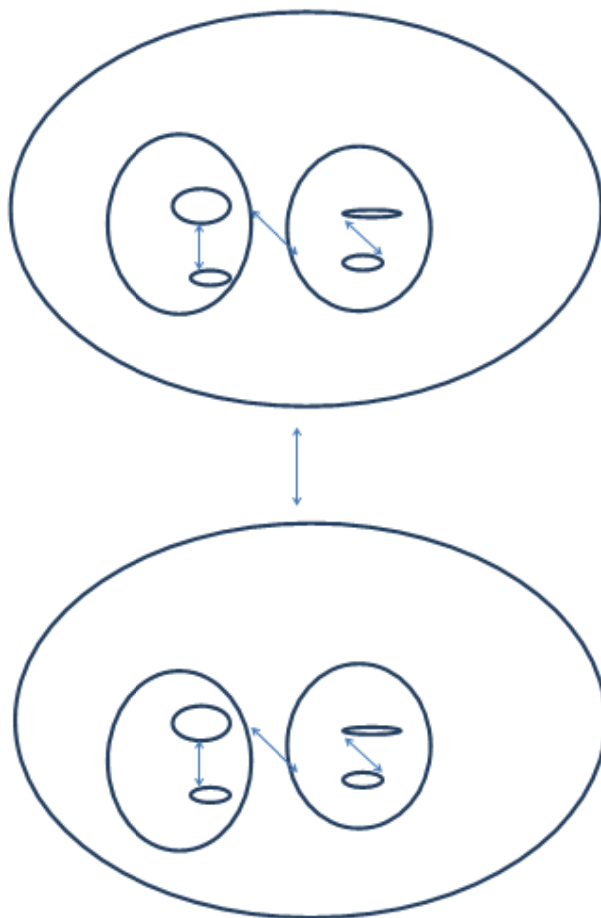
Entanglement is a widely researched topic. In an entangled system the information transfer between the constituent particles can take place instantaneously (even faster than speed of light). This has been called "Spooky action at a distance". Example of such an entangled system is the radioactive reaction in which two particles are generated. In such a system the angular momentum, spin etc. are conserved. If the spin on one particle is measured to be  $+1/2$  then the spin on the other particle will always be  $-1/2$ . It is noteworthy according to the laws of the quantum physics the spin on the first particle cannot be said to be  $+1/2$  or  $-1/2$  before the measurement. The spin on the first particle becomes  $+1/2$  only when a measurement is made. There is an instantaneous communication between the constituents of an entangled system once the spin of one component is defined.

We propose that the entire universe can be viewed as one entangled system. In fact the entire field of universal consciousness in which everything exists can be considered as an entangled system. However in this article we will focus our attention on our universe only (There are many theories that say that there are more than one universes). If the entire universe is considered as one entangled system there must exist wormholes between the components of the entangled system (in this case universe). We say this because the recent research shows that there is an instantaneous creation of wormholes as an entangled pair of particles is created (Jensen and Karch, 2013, Sonner, 2013). The entanglement till now has been shown to be between a pair of particles. However recent research shows that the entanglement can take place between more than two particles (Erven et al. 2014). It is also possible that the entanglement might take place between many components of a system. In fact multi party quantum communication has been theoretically shown to be possible and the scientists have proposed the construction of a quantum internet based on this (He and Reid, 2013).

From the universe, we turn our attention to the biological systems. We propose that Biological systems can be viewed as quantum computers. The constituents of biological cells are molecules and ultimately elementary particles. So in a living organism the non local communication may take place at various levels: between the elementary particles constituting the atoms, between the atoms in a molecule, between the molecules, between the molecular complexes, between the cell organelles, between the cells, between the tissues, between the organs at the level of the biological organism. It is notable that one of us (Grover and Grover, 2011) has proposed the existence of quantum pseudotelepathy between the biomolecules in a living cell. We further propose the existence of non local communication at several levels within a biological organism. The recent research on quantum internet and multiparty quantum communication supports our theory.

This non local communication within a living cell might indicate a hitherto unidentified mechanism of activity in biological organisms. For example, one of us (Grover, M., 2011) has earlier proposed that in stress (abiotic and biotic) the consciousness vector of the biomolecules decrease. We have also proposed that this might lead to disruption of wormholes between the molecules (Grover et al., communicated). We extend this theory in light of our earlier statement in this paper and propose that consciousness vector not only at the level of molecules but at level the of elementary particles, atoms, molecules, molecular complexes, organelles, cells, tissues, organs and biological organisms decrease. Within a biological organism (as mentioned earlier in this paper) we have proposed that wormholes may exist and non-local communication may take place between at several levels. We further hypothesize that in stress not only the consciousness vector of the constituents, but the number of wormholes between the constituents may decrease, thereby leading to overall decrease in non local communication within a cell which may lead to stress symptoms. Thus stress may be due to decrease in the consciousness vector of the cell as also the non local communication within the cell. Non local communication in addition to the consciousness vector may be important factors in biological stress. The same may be said about the developmental program of the biological organisms

Fig.1: The Non local communication in the biological systems. The innermost shapes denote elementary particles, the next shapes represent atoms, the next shapes represent the molecules. The arrows represent non local communication (through wormholes). The non local communication takes place between elementary particles, atoms, molecules and so on. Thus the schema can be extended to organelles, cells, tissues, organs and the entire biological organism.



## References

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