

# The Science of Spiritual Psychology



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## Opinion

Science deals with nature. Spirituality deals with nature of consciousness. Mysticism is engagement with consciousness.

Spiritual psychology begins when the psyche of the individual takes a journey on faith, devotion and love towards some abstract existence of 'That', which is not observable, not localizable in space and time, not measurable and non-reducible.

We must be clear at the outset that the psyche is not monolithic. The psyche consists of information, mind, self, life and consciousness [1]. The members of the psyche constitute the cognitive organ of the individual. It is mind which deals with the physical world and from which it owes its infidel character. Mind reports to self. Self is which evokes the sense of 'I', 'Me' and 'Mine' within the systems. It is self which programs mind for processing information. Self programs the signal network and does network analysis by application of formal logic. Life on the other hand, is responsible for three important homeostasis; uncertainty-certainty homeostasis, asymmetry-symmetry homeostasis and dark energy-visible energy homeostasis [2]. Life and self maintain a tangled hierarchy between themselves and both report independently to consciousness. Consciousness is identified as the operation, which takes care of operations of self, life and mind for total quality management of information within the systems psyche with minimum turn-around-time. Consciousness could also be viewed as operation, which is necessary and sufficient for transition of signal to information, information to knowledge, knowledge to experience and experience to wisdom, also the vice versa [3].

When this cognitive organ of the individual gets tuned to receiving signal, which represents specific information on some definite knowledge from an experienced person who has the wisdom of the world in his command, the individual turns towards spiritual direction as a student/disciple under the guidance of the man of wisdom, the teacher/Guru.

For science, it is not clear what is 'That', which attracts millions of psyche towards it in some pretext or other! It is not known 'What' seduces the primed psyche towards this direction! It could be the God! It could be the fabrics of the universal consciousness! In the astrophysical scale it could be the Essence of the Multiversity, the essence from which the systems of several universe(s), the multiverse is born and the essence in which all universe(s) would also be absolved, may be after millions of light years! In mathematical terms, this 'That' is the infinity of which the messengers are quantum fields, scalar fields etc.! Also, it could be the Ground without any background, but on the foreground of which self, life, mind and information are players. Also, it could be the Point or Moment from which millions of spheres germinate as manifold of experience while individual sphere represents the knowledge domain. Sphere hatches out and generates information, which in the physical world is perceived as signal. 'That' might be the Helm of the ladder of cognition. 'That' might be the dynamic wisdom at the top of the cognition ladder.

People connect with 'That', through, prayer, meditation and love (agape). Prayer is when you pray for something to 'That'. Meditation is when you listen to 'That'. Love is when you are in an irrevocable transformative dynamic engagement with 'That'.

However, to get into this 'That' at the top/center, one has to cross three existential voids: apparent void (astrophysical equivalent of interstellar space), great void (astrophysical equivalent of intergalactic space) and the "divine" void (astrophysical equivalent of inter-universal void). What are required are faith, devotion and love. Faith is the thread of connection between the concrete and the abstract, seen and the unseen, senses and something beyond senses, the rationale and the abstraction. The growing pole of faith is devotion. Crystallized devotion is love. Other way round, melting love is devotion. Abstract infrastructure that supports devotion is faith.

Do we have any neural basis of this Faith, Devotion and Love? Possibly yes. There is no concrete evidence in favor of what I am going to state now, but nevertheless the idea is worth exploring [4].

Our cerebral cortex has billions of neurons arranged in six layers. We do our work mostly with lower three layers. Even if one removes upper three layers of cerebral cortex, very little change could be found in the EEG recording except some changes in delta wave. The modular arrangement of neurons are strong in lower three layers and this arrangement fades away in upper three layers. There is an electrophysiological watershed between upper three and lower three layers of cerebral cortex, specifically between third and fourth layer of the cerebral cortex. Pyramidal motor neurons are mostly located in fifth layer of cerebral cortex, which shows laminar necrosis in neonatal death due to severe hypoxia. The density of cells gradually decreases as one moves from the fourth to third, second and first layer of cortex. The first layer, the topmost layer of the cerebral cortex is mostly a meshwork of dendrites, which do not show propagated action potential but show moving dendritic dipoles. The second and third layers of cerebral cortex are full of spines (synaptic and non-synaptic) on the apical dendrites of several millions of neuron. The question is why the apical dendrites of some neurons run upwards in the cerebral cortex towards the surface of the brain? Conventional answer is, it is for association. Dendrites and their spines are receiver! What do they receive at the outer surface of the cortex? Do the dendritic mat over the cerebral cortex and non-synaptic spines on dendrites operate as antennae of cerebrum? Let us work on this research hypothesis and the result will speak.

In behavioral cortical dynamics, to get the third layer of cerebral cortex into the modular activities of lower three layers is possible by cultivation of faith. To get both third and second layers of cortical neurons in the modular operon of lower three layers requires cultivation of devotion. To have the information of the first, second and third layer of cerebral cortical neurons into the modular operon of cerebral cortex is impossible without constant cultivation of love. Intuition, illumination and revelation are results of such bi-hemispheric synchronization with cascade like incorporation of information of upper three layers of cortex during their expression as signal by lower three layers.

The interface between the cortex and the beyond is the location for the operations of psyche. Cortico-supracortical

and supracortico-cortical interaction keeps the brain-bound consciousness open to brain-independent consciousness of the universe [5]. At the cortico-supracortical interface, the brain remains in sync with the world, in connection with 'That', which redefines and renews consciousness of the systems brain with every conscious experience.

Traditionally, the gonadal basis of love is emphasized as sexuality. Love also has a genetic basis. One cannot love a flower or music unless one possesses genes for this. Molecular biology of love is intimately connected with cell signaling of gene expression through transcription factors. In neuropsychological context, love is cortical manifestation of supracortical consciousness. Love is inexhaustible within the cortical limits. Devotion is the result of permeation of this love (supracortical consciousness) into the cortical modules. The beginner's faith matures into trust when this permeation captures the whole of the cerebral cortex. Faith is for what is yet not seen. One has merely heard of 'That'. Trust grows when one has seen 'That' with own eyes. Any conflict between ears and eyes is not there in trust. Ananda, the ecstasy of being one with 'That' is the result of biologization of this supracortical consciousness at the level of limbic nuclei of the brain.

All these operations require energy, a part of which is visible, but majority of this expenditure is supported by dark energy. Dark energy constitutes 70% of our universe [6]. Only a live system is capable of dark energy-visible energy homeostasis. Love, devotion and faith in our life take us out of this dark energy into what is called Light, Spirit and the Truth.

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