

On a New Type of Long-Distance Physical Particle Interaction

(the SAE hypothesis)

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Abstract: As the Global Consciousness Project at Princeton University (NJ, USA) progresses with positive results it gives an idea of hypothesis on existence of a new yet to be discovered type of long-distance physical particle interaction, via the “space-area entanglement”.

The Global Consciousness Project suggests that “when human consciousness becomes coherent and synchronized, the behavior of random systems may change”. We will assume that the term “human consciousness” means “time-varying electro-magnetic fields generated by human body” since to date it was practically proven that electro-magnetic fields generated by human body (including brain) depend on the types of activity and sensory input a human body has. So, most human states of consciousness can be expressed as a set of time-varying electro-magnetic fields emerging in various parts of human body and brain. It can be said that each “state of consciousness” of a human has a unique electro-magnetic “blueprint”.

The hypothesis: when any two given areas of 3-dimensional space, regardless of their distance to each other, are filled with time-varying electro-magnetic fields of equal size, spatial configuration and variation, these areas of space become “entangled”. Such entanglement produces the “cross-leakage of particles and energy” between these areas of space. Thus, the particle processes and interactions occurring in these areas under such electro-magnetic conditions become correlated (e.g. photon-based random number generators placed in both areas may exhibit correlation which is otherwise impossible). It can be hypothesized that the strength of correlation is proportional to the intensity of electro-magnetic conditions, and inversely-proportional to the space and time distance between the entangled areas.

Such “space-area entanglement” (SAE) provides a way for the physical particles to interact with each other over long distances, overcoming the well-known “speed of light” limit. Moreover, such entanglement may allow the particles inside the entangled areas to exhibit time-invariant interaction thus allowing for particles and energy to travel backwards and forward in time. It can be also hypothesized that when correlation of processes in two entangled areas approaches unity, SAE may also allow heavy particles to “travel” between the areas via particle state exchange.

The most “spooky” outcome of a possible existence of SAE is the overriding of the laws of motion. SAE allows for speeds and distances of travel that are not proportional to the energy spending. Moreover, via SAE the energy can be “borrowed” from a distant location, including the past or future thus seriously transforming the laws of conservation of energy.

SAE may successfully describe the apparent natural diversity of biological and cosmic-scale entities, including human individualism. If biological entities were functioning synchronously to

a high level, generating similar electro-magnetic fields in their bodies, under SAE hypothesis they would pass information bits to brains of each other in large quantities thus reducing the level of individualism and diversity. On the other hand, the existence of SAE would allow for any entity to attain the state that is more individual and less entangled simply by counter-acting the information reaching it due to SAE.

Under normal “uncorrelated” human body conditions, the information exchange due to SAE between brains of humans is small, probably on the level of just hundred bits per second. However, under stronger electro-magnetic field correlations the information exchange may become more intense. For example, stronger entanglement can be reached by global mass media informing which forces people’s brains to function partly in unison due to the fact that the same information stimulus is given to many people simultaneously.

Testing the SAE hypothesis is a relatively simple operation. A correlation between two physical random number generators placed at a distance from each other should be measured, with each generator immersed into equal time-varying electro-magnetic fields of considerable intensity. Spatial configuration of the electro-magnetic field together with its frequency and mode of variation in time (sinusoidal or impulse intensity variation), are the parameters which may need to be chosen empirically. The time delay between such oscillating fields and between random number series may also need to be chosen empirically in order to detect a non-zero correlation.

Another premise of SAE hypothesis is the existence of physical laws themselves. If a physical law is treated as a regulating external information acting on a physical particle depending on particle’s state and local interactions, this information regulates all similar particles in the Universe equally, simultaneously and without distance considerations. The only viable basis for such equal treatment is similarity of field configurations of similar particles.