**A theoretical proposition for retinal detection of a field potential unfolding from the light array to form the basis of spatial and orientation awareness within the phenomenon of vision.**

**John Jupe**

**Contact:** [**John.jupe@pacentre.org**](mailto:John.jupe@pacentre.org)

(ISBN 978-0-9551535-3-2)

This paper outlines a theoretical proposition for detection of two distinct data-sets at the retinal membrane. The first based on the probabilistic arrival of photons over time that can be broadly aligned with photons triggering neural response (differentiation) and the second based on coherence (requiring synthesis) in the form of what has been to date dismissed as noise, something filtered from the incoming light array only to be then discarded.

The suggestion is that the field potential collected from across the retina would be strongly linked to the extensive system of lateral connections within retina layers to be streamed and collated further down the dorsal visual pathway. In other words it suggests that the principle function of retinal cell structure is one of decoherence and the subsequent segmentation of two distinct data-sets from the light array both of which are preserved. These independent data-potentials would be strongly associated with the two visual pathways and their respective ‘what’ and ‘where’ characterizations and be ‘processed’ in entirely different ways in different regions of the brain.

This in turn suggests that the field potential is propagated through the colliculacorticalpathway, to be associated with tectal vision, spatial awareness and the ‘where’ characterisation within visual awareness. We would also suggest that the field potential would form the basis of multi-sense spatial awareness and orientation through the integration of field potentials from other ecologies such as audition.

The theoretical position with respect to retinal process is one that has been developed from a broader theory of vision based on the intuitive and psychophysical exploration of phenomenal field and its phenomenological characteristics. From a working understanding of the structure and dynamic of information exchange occurring within phenomenal field and the attributes of visual awareness the theory works back through the brain structure, neural firing patterns, brain function to the retina and ultimately to the physics of light. Vision is non-photographically rendered and appears to rely on two independent data-sets, each presenting different ‘takes’ on the real setting under observation.

These different ‘takes’ on reality require mediation by ‘mind’ based on our intent in the world, memory, emotional state etc. The mediation process will reflect the nature of the data-sets being handled. While decoherence at the retina would suggest that mediation occurs at the classical or macro scale of operation, the implication is that awareness is quantum mechanical in nature, quantum by proxy?