%\begin{abstract}

There are very general objections against the idea that ultimate sensory
representations are realized inside brain. For instance, any computer
scientist, unless informed about materialistic dogmas, would argue that
the processing of the sensory data must be separated from its
representation. How this could occur if sensory and other representations
are realized inside brain, is however difficult to see.

In TGD approach these objections lead to the view that the magnetic
flux tube structures associated with the primary sensory organs and higher
levels of central nervous system define a hierarchy of sensory and other
representations outside brain with magnetic flux tubes serving as the
sensory canvas to which place coding by magnetic transition frequencies
generates sensory sub-selves and associates with them various sensory
qualia and features by quantum entanglement. Thus brain could be much like
a RAM memory containing a collection of features in random order and the
ordering would be induced by the sensory map to the magnetic sensory
canvas. MEs define the sensory projections and EEG MEs correspond to our
level in this hierarchy of projections. The sizes of these sensory selves
are of order ME sizes ($L(EEG)= c/f(EEG)$) and thus or order Earth size at
least. Thus TGD based view about sensory representations is a diametrical
opposite of the standard view in which sensory representations are
miniatures.

The construction of a more detailed model is based on the following
assumptions.

\begin{enumerate}

\item Sensory qualia are at the level of primary sensory organs having their
own magnetic bodies and entangled with the cognitive and symbolic
representations of the perceptive field in brain in turn entangled with the
points of the sensory magnetic canvas. The entanglement between primary
sensory organs and brain and TGD based view about long term memory resolves
the basic objections against this view, and one can understand the
differences between sensory experience, imagination, dreams, and
hallucinations and various strange phenomena like synesthesia, Anton's
syndrome, and blind sight.

\item Second essential element is the mirror mechanism of long term memories.
To remember something in the geometric past at temporal distance T is
to look at a magnetic mirror with length $L=cT/2$. At quantum level
quantum entanglement is involved and means sharing of mental images between
recent me and the me of the geometric past (or some other self responsible
for the memory representations). This requires that magnetic flux tubes
involved with long term memories have astrophysical lengths with light
year being the natural length unit. For magnetic fields this indeed makes
sense. This picture can be applied to construct a model of long term
episodal and declarative memories. The magnetic body (the
\blockquote{me}) uses brain
as a time mirror by generating a negative energy ME representing a signal
propagating along magnetic flux tube to the brain and entangling magnetic
body with brain. The negative energy ME is time reflected as a positive
energy ME able to communicate classical information to the magnetic body
possibly using p-adic cognitive code. Phase conjugate laser wave is the
physical counterpart of negative energy ME.

Zero energy ontology (ZEO) has provided a justification and precise
definition for the notion of negative energy signal at quantum level.
The arrow of time and negative energy have as quantum correlate the
boundary of CD at which the state remains invariant under repeated state

function reductions which in ordinary quantum theory would leave
the state invariant.

\item Libet's findings about strange causal anomalies related to
the passive
aspects of consciousness support strongly the notion of magnetic
body and
lead to the conclusion that sensory experiences are geometric
memories of
magnetic body in time scale of .5 seconds about what happens in at
the
level of material body. Libet's findings about active aspects of
consciousness in turn allow to conclude that motor activity is very
much
like active precognition and mirror image of sensory perception. A
beautiful general scenario unifying sensory perception, long term
memories,
and motor action emerges and allows to explain phenomena like
sensory
rivalry difficult to understand in neuro-science framework. It must
be
however admitted that sensory canvas hypothesis is far from being
established even in TGD framework: one can also defend the minimal
model in
which personal magnetic body is responsible only for the realization
of
long term memories and sensory, symbolic, and cognitive
representations are
realized only at the level of the material body.

\item Dark matter hierarchy based on a hierarchy of increasing
values of
Planck constant predicts a hierarchy of generalized EEGs. The
generalized
EEGs make it possible for the magnetic bodies to receive sensory
information from biological body and quantum control it. The
resulting
detailed model of ordinary EEG predicts correctly the band structure
and
narrow resonance bands.

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