

%\begin{abstract}

The book \blockquote{The origin of consciousness in the breakdown of the bicameral mind} of Jaynes provides a highly original vision about the evolution of modern consciousness from the consciousness of bicameral stone age man.

TGD version about the cosmology of human consciousness relies on the notion of semi-trance. During semitrance parts brain entangle with some higher level, say the self associated with the social group, and are in trance and therefore unconscious. The remaining parts of brain are however conscious and receive communications from the collective consciousness via the entangled region of brain as sensory hallucinations, emotions and thoughts. Semitrance is absolutely essential for self narrative and establishment of long term goals: without semitrance our consciousness would consist of memory fragments lasting only few seconds. Higher level selves tell us where we come from and where we are going.

The basic differences between Jaynes's and TGD based version about evolution of civilization relate to the interpretation of bicamerality and what really happened in the evolution of individual.

\begin{enumerate}

\item In TGD framework one could see bicameral man as a cognitive and emotional child characterized by the effective cognitive and emotional ages at which the cognitive and emotional self-organizations of her left brain hemisphere stopped in the absence of external stimuli necessary for self-organization (it is impossible to learn to write if civilization has not discovered written language). Of course, there are several parameters differentiating between modern man and bicameral man (sensitivity for semitrance, profile of semitrance, time fraction spent in

semitrance,
right-left brain inhibition,..) and the identification of bicameral
as a
cognitive and emotional child as we understand child is un-
necessarily
strong.

\item The ability to fall in semitrance was not lost during
evolution but
was transformed to a new form. Not only linguistic but also sensory
regions of the right brain hemisphere of bicameral man entangled
with
higher level selves and the communications from right to left brain
hemisphere were not inhibited as they are in the brain of modern
man.
As left brain hemisphere differentiated and memetic code gradually
established itself, the guiding voice of God was transformed to
internal
speech and emotions. Higher level selves began to express their will
via
emotions, moods, planning and long term goals.

\item The differences between EEG:s of normal person and
schizophrenic
suggest that the fraction of time spend by average modern man in
semitrance
is much shorter. A more general criterion of bicamerality might be
based on
the fraction of time spend in semitrance state, be it sensory,
cognitive
or emotional. It is plausible that thoughts (not all of course!)
are
communicated to modern man via left brain hemisphere. If this is
indeed the
case, some regions of left brain hemisphere of modern man should
allow
standing EEG waves.

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The development of the language is an absolutely essential part of
the
development of civilization. The syntactic structures of language
emerged
in parallel with the development of civilization. In TGD framework
the
development of language can be seen as a gradual establishment of
genetic
and memetic codes at new level and the emergence of symbol
function. This
could be also seen as an establishment of a symbiosis between two
life-forms: biological life and \blockquote{culture} having as a
physical correlate
electromagnetic life represented as topological quanta of em ELF

fields and
providing realization of the memetic code.

Semitrance mechanism provides an extremely general communication mechanism between the levels of the self hierarchy and could explain why ant nests, beehives, flocks of birds, packs of wolves, cell societies, nuclei of brain, etc.. can behave as single organism and still consist of apparently randomly behaving individuals. Indeed, relevant biological structures (DNA double strand, double lipid layer forming cell membrane, epithelial sheets) have binary structure analogous to two brain lobes and are ideal candidates for \blockquote{bicameral} structures.

The vision about the development of civilization generalizes to cell level. p -Adic fractality plus the fact that the number of quantum jumps performed by selves is huge even at cellular and elementary particle levels, inspires the hypothesis that various societies ranging from human civilization to cell societies and protein-DNA societies are characterized by universal asymptotic self-organization patterns. This provides important insights to the structure of the biological self-hierarchy and its relation to the structure and functioning of organism and about how semitrance might allow bio-systems to control and coordinate their behavior. Cell as a protein-DNA society together with parallel between memetic and genetic codes provides a predictive vision about how genetic code might have established itself and semitrance suggests that new kind of control and communication mechanisms based on semitrance mechanism are at work.

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While writing the first version of this chapter, I did not yet know
about
hierarchy of Planck constants defining dark matter hierarchy in TGD
Universe, about magnetic bodies as carriers fo dark matter proposed
to
serve as intentional agents in living matter, nor about the notion
of
negentropic entanglement defining physical realization of
semitrance. These
developments provide interesting additional ingredients to the model
of
semitrance.