This work has been inspired by two books. The first book
\blockquote{On intelligence}
is by Jeff Hawkins. The second book \blockquote{Consciousness: the science of
subjectivity} is by Antti Revonsuo.

Jeff Hawkins has developed a highly interesting and inspiring vision about
neo-cortex, one of the few serious attempts to build a unified view about
what brain does and how it does it. Since key ideas of Hawkins have
quantum analogs in TGD framework, there is high motivation for developing
a quantum variant of this vision. The vision of Hawkins is very general in
the sense that all parts of neo-cortex would run the same fundamental
algorithm, which is essentially checking whether the sensory input can be
interpreted in terms of standard mental images stored as memories. This
process occurs at several abstraction levels and involve massive feedback.
If it succeeds at all these levels the sensory input is fully understood.

TGD suggests a generalization of this process. Quantum jump as a moment of
consciousness and a sequence of quantum jumps inducing repeated state
function reduction at the same boundary of causal diamond (CD) as self would
be the basic identifications. These would define the fundamental algorithm
realized in all scales defining an abstraction hierarchy. Negentropy
Maximization Principle (NMP) would be the variational principle driving
this process and in optimal case lead to an experience of understanding at
all levels of the scale hierarchy realized in terms of generation of
negentropic entanglement. The analogy of NMP with second law suggests
strongly thermodynamical analogy and p-adic thermodynamics used in particle
mass calculations might be also seen as effective thermodynamics
assignable to NMP.

In the following I will first discuss the ideas of Hawkins and then
summarize some relevant aspects of quantum TGD and TGD inspired theory of

consciousness briefly in the hope that this could make representation
comprehensible for the reader having no background in TGD (I hope I have
achieved this). The representation involves some new elements: reduction
of the old idea about motor action as time reversal of sensory perception
to the anatomy of quantum jump sequence in zero energy ontology (ZEO); interaction
free measurement for photons and photons as a non-destructive reading
mechanism of memories and future plans (time reversed memories) represented
4-dimensionally as negentropically entangled states approximately invariant
under quantum jumps (this resolves a basic objection against identifying
quantum jump as moment of consciousness) leading to the identification of
analogs of imagination and internal speech as fundamental elements of
cognition; and   a more detailed quantum model for association and abstraction processes.

I will also   compare various theories and philosophies of consciousness
with TGD approach following the beautifully organized representation of
Revonsuo. Also anomalies of consciousness are briefly discussed. My hope
is that this comparison would make explicit that TGD based ontology of
consciousness indeed circumvents the difficulties against monistic and
dualistic approaches and also survives the basic objections that I have
been able to invent hitherto.