Mental Computers and the Origin of DNA

Sylwester Kornowski

Abstract: Here, applying the Scale-Symmetric Theory (SST), we showed how are unified the particle physics and mental world within the Einstein spacetime which is composed of the luminal neutrino-antineutrino pairs and neutrinos. The neutrino-antineutrino pairs in the Einstein spacetime can interact gravitationally only (it concerns the ground state of the Einstein spacetime and the dark energy) or can be entangled (they are the dark-matter structures; the mental solitons are the dark-matter structures as well). The dark matter structures can be entangled with ordinary matter. Due to the internal structure of neutrinos, the neutrino-antineutrino pairs cannot annihilate. Such model shows the difference between the simulating computers and mental computers. Mental computers need senses and must produce mental solitons via their nervous system, not via algorithms which are used in the simulating computers but, of course, we can use algorithms additionally (the hybrid computers). Creativeness is even not probabilistic so it cannot be simulated via algorithms i.e. cannot be controlled. Here as well we showed that linear structures composed of entangled neutrinos are the precursors of DNAs.

1. Introduction

First problem concerns memory of a computer. What makes a computer memory?

A classical computer has a memory made up of bits (a single bit can represent a zero or a one). A quantum computer has a memory made up of qubits (a single qubit can represent a zero, a one, or any quantum superposition of those two qubit states). Here, applying the Scale-Symmetric Theory (SST), [1], we will show that a mental computer has a memory made up of mental solitons that interact with each other and with active nervous system due to the quantum entanglement. Mental solitons are built of the neutrino-antineutrino pairs the luminal Einstein spacetime consists of, and are produced due to the current decays and circuit breakers in brain (neurons can do this).

Due to the internal structure of neutrinos, the neutrino-antineutrino pairs cannot annihilate [1A]. Each soliton is unique but different solitons can have the same or self-similar parts – it causes that because of the quantum entanglement they can interact stronger. Mental solitons can interact as well magnetically and gravitationally. We can see that the real pieces of mental memory differ very much from the abstract pieces of memory in classical or quantum computers (they maintain the sequences of bits/qubits). Just mental memory consists of different 3-dimensional shapes. Creativeness is not associated directly with activity of atoms or electrons in brain – it is associated directly with activity of the mental solitons our minds

consist of. Dark-matter structures consist of the entangled non-rotating-spin neutrino-antineutrino pairs [1A], [2]. Mental solitons are the dark matter structures also so they increase local mass density of the luminal Einstein spacetime in brain and close to it.

Next problem concerns the data processing.

We set the bits/qubits in a controlled initial state that represents the problem and next we manipulate those bits/qubits with a fixed sequence of classical or quantum logic gates (quantum logic gates are represented by unitary matrices: 2×2 or 4×4). The sequence of logic gates to be applied is refer to as classical/quantum algorithm. On the other hand, SST shows that creativeness is even not probabilistic so it cannot be simulated via algorithms i.e. cannot be fully or partially controlled. The mental computers do not need algorithms concerning the data processing.

So how we can force planned investigations using the mental computers?

The mental computers must have senses and only via the senses we can force planned investigations but results of such investigations are unforeseeable.

It is assumed that simulating physical laws via algorithms, we can finally fully understand Nature. In my opinion, it is untrue. Simulations via algorithms can lead to experimental data and observational facts via free parameters of unknown origin as well so such simulations do not cause that we understand Nature better. We do not know how to simulate the full Standard-Model (SM) of particle physics because SST shows that it is partially incorrect and incomplete at low energy. We, for example, cannot calculate precise mass and spin of proton from the SM initial conditions. Just most important is to discover new symmetries and reduce number of the initial conditions.

How we can receive the outputs from the mental computers? We must compare the inputs (i.e. the signals activating the senses of mental computers) with activity of the nervous system of the computer – it is the language of the mental computers.

Here we recollect the conclusions from the theory of neutrinos described within the SST that are needed to understand this article. Next we described physical phenomena that lead to the definition of the mental solitons and then we showed that linear structures composed of entangled neutrino-antineutrino pairs are the precursors of DNAs.

The SST starts from 7 parameters only (there are not free parameters) and till now using this theory we calculated a thousand theoretical results which are consistent or very close to experimental data. Many of them we cannot calculate within the mainstream theories, for example, the physical constants. We proved that SST is the lacking part of Theory of Everything (ToE).

To understand the difference between the simulating and mental computers and the evolution of DNAs we must know the internal structure of neutrinos and spacetime.

The SST shows that during the inflation the superluminal non-gravitating Higgs field partially transformed into the luminal Einstein spacetime composed of the neutrino-antineutrino pairs. On the other hand, the neutrinos are built of the binary systems of superluminal closed strings (entanglons) that are responsible for the quantum entanglement [1A].

The gluons and photons are the rotational energies of the Einstein-spacetime components i.e. of the neutrino-antineutrino pairs. There is one Type of photons and eight Types of gluons. It follows not from a difference in internal structure of the carriers of gluons and photons but from the different interactions of the rotating neutrino-antineutrino pairs with different fields. The gravitational and electromagnetic fields have not internal helicity so all Types of the rotating neutrino-antineutrino pairs behave in these fields the same whereas the nuclear strong fields have internal helicity (it follows from the internal structure of pions [1A]) so different rotating neutrino-antineutrino pairs behave in the nuclear strong fields in different way and it leads to the eight Types of gluons [1A]. Just photons inside the nuclear

strong fields behave as gluons whereas the gluons in gravitational and electromagnetic fields behave as photons.

According to SST, the neutrinos have the torus/weak-charge which distinguishes the neutrinos from their antineutrinos [1A]. Structure of the weak charge causes that neutrinos and neutrino-antineutrino pairs can be entangled or confined [1A], [3] – entanglement and confinement are the new types of forces [1A].

SST shows that there are only two species of stable neutrinos i.e. the electron- and muon-neutrinos (and their antineutrinos) – due to their internal structure, the neutrino-antineutrino pairs cannot annihilate [1A]. The third tau "neutrino" is unstable and is composed of entangled three different stable neutrinos. The tau neutrino can decay to three neutrinos or to neutrino and neutrino-antineutrino pair. Today detection of the non-rotating neutrino-antineutrino pairs is very difficult because their total weak charge is equal to zero.

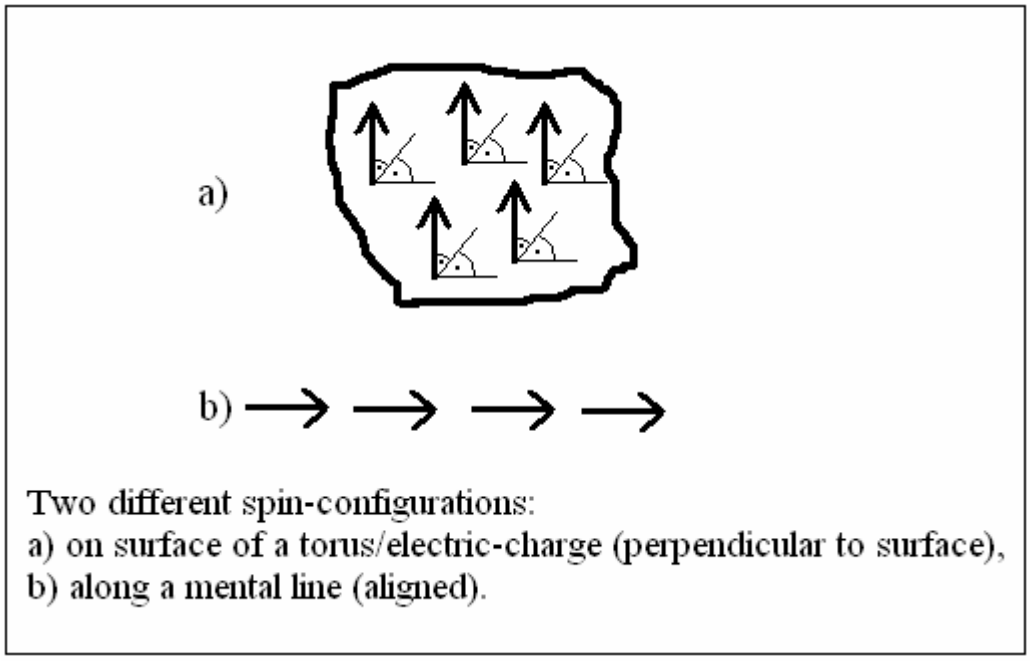
The parameters of the ground state of the Einstein spacetime (the ground state consists of the non-rotating neutrino-antineutrino pairs interacting gravitationally only) are invariant so particles in such state, even despite of the very high density of the Einstein spacetime ($1.1022 \cdot 10^{28}$ kg/m^3 [1A]), behave as in a truly empty volume.

In reality, the neutrino oscillations are not the unreal transformations of neutrinos but follow from the common exchanges of free neutrinos for the neutrinos in the Einstein spacetime and from the common decays of the unstable tau neutrinos. Both phenomena imitate the neutrino oscillations.

2. Creation of mental solitons

It is very important to unite the particle physics with the mental world via a single field.

There are two different spin-configurations of entangled non-rotating neutrino-antineutrino pairs (their spin is unitary). One configuration leads to the tori/electric-charges whereas the second one leads to the mental lines that can be closed (Fig.). Surface of a torus/electric-charge looks as an analog to a vortex in a strongly interacting Fermi gas [4]. A mental soliton consists of entangled (the quantum entanglement) loops/circles composed of the non-rotating neutrino-antineutrino pairs with the unitary spins tangent to the circles.



Two different spin-configurations:
a) on surface of a torus/electric-charge (perpendicular to surface),
b) along a mental line (aligned).

A field composed of such circles and of sets of entangled such circles (the mental solitons) we will call the fractal field. Mind is a fractal field.

2.1. Creation of mental solitons

All circular electric currents and those inside atoms and brains as well, create concentric quantized circles composed of the non-rotating-spin neutrino-antineutrino pairs with aligned spins. Angular momentum of such circles must be quantized ($n\hbar$, where n denotes natural numbers). A set of entangled sets of concentric circles we will call "a mental soliton". Our minds consist of such solitons. Due to the current decays and circuit breakers (for example neurons can also do this), entangled smaller and smaller self-similar mental solitons are produced.

There appears attractive force between identical parts in different mental solitons. We can see that consequently a conflict for the domination of identical fragments takes place. Such processes are possibly responsible for the free will.

We see that the theory of chaos concerns as well the mental solitons [1C]. There is a possibility that the motions of solitons that follow from the conflict for the domination of identical fragments in different solitons, due to the magnetic interactions, can induce electric currents in our brains.

2.2. The definition of the mental solitons/pieces-of-knowledge

A) They are the very stable structures composed of the entangled non-rotating-spin neutrino-antineutrino pairs carrying unitary spin so they are not the "light bullets".

B) They are the sets of entangled sets of concentric circles composed of the neutrino-antineutrino pairs. They consist of the closed electric lines i.e. their spins are tangent to circle.

C) They are the dark-matter structures as well so they increase insignificantly local mass density of the luminal Einstein spacetime inside brain and close to it.

D) Their size can be arbitrary and depends on rate of damping of the brain electric currents (of a brain knot).

E) They can interact with other solitons gravitationally, magnetically and, especially, due to the quantum entanglement but they never merge or split.

3. The origin of DNA

We know that the number of atoms in one human genome is the order of 10^{11}. On the other hand, inside the core of baryons (there dominate the nuclear strong and weak interactions) are produced virtual double loops with antiparallel angular momentums which are composed of the non-rotating-spin neutrino-antineutrino pairs [1A]. The mean distance between the pairs in the Einstein spacetime is about $L \approx 3.9 \cdot 10^{-32}$ m whereas the circumference of virtual loop is about 2.92 fm [1A]. It leads to conclusion that one loop consists of approximately $7.5 \cdot 10^{16}$ neutrino-antineutrino pairs.

Due to the expansion of the Universe and succeeding decays of the loops, distances between pairs in the virtual loops increase so there is period of time when the distances are close to the mean distance between atoms in DNA.

On the assumption that one neutrino-antineutrino pair interacts with one atom, we conclude that the $7.5 \cdot 10^{16}$ pairs in a loop is much too much to create one human genome composed of about 10^{11} atoms. After the lifetime, the loops become open. We can see that the segments composed of the entangled neutrino-antineutrino pairs can be the precursors of DNAs.

When the opportunity occurs, notice that the double loop composed of the rotating-spin neutrino-antineutrino pairs is the neutral pion [1A].

Compare the properties of the DNAs with properties of the neutrinos.

We know that charged pion decays to entangled electron/positron and three different stable neutrinos. It suggests that such trios can be precursors of the codons in DNAs.

There are the four stable neutrinos (precursors of DNA should be stable) so there are the four different stable neutrino-antineutrino pairs. The four different pairs can be precursors of the four different bases i.e. A, C, G and T.

Neutrinos have two states of the weak charge so their alternate setting can force the alternate setting of the deoxyribose and the phosphoric acid along a line.

In atoms, there are the two spin states of an electron in the ground state (up and down). This leads to the two threads in the helices whereas the Pauli Exclusion Principle is responsible for creation of the helices i.e. each next proton in a helix must have different direction of spin.

Precursors of the DNAs look as zero-energy superphoton-like structure. This means that the zero-energy superphotons could be the catalysts. There are about 10^{78} nucleons so it is the lower limit for number of the zero-energy superphotons. To create one our entire genome is a need of about 10^{36} different zero-energy superphotons. This means that human life should be usual.

4. Summary

Here we showed how is unified the particle physics with the mental world via a single field. Moreover, we showed that mental world is described by the Chaos Theory. We showed that phenomena concerning particle physics and mental world are very different. It causes that the mental computers should differ very much from the simulating computers using algorithms. The structure of the mental computers must be defined by phenomena that take place in the fractal field. Such computers should have senses and nervous system to produce the mental solitons. We never will able to control the mental processes. Creativeness is not even probabilistic so it cannot be simulated via classical or quantum algorithms i.e. cannot be controlled. We can only programme the activity of the senses and read the final result. Of course, such mental computers will think in a complex way when we will teach them in a similar way as we learn.

To control the mental processes, one could postulate to create a “mental computer” which transforms the 3-dimensional (3D) pictures into 3D structures composed of entangled circles and to add some other algorithms concerning, for example, the interactions of the mental solitons, and so on. It is a good idea but it is very easy to notice that the resolving power of the 3D structures always will be much, much lower than the Einstein spacetime. It causes that such “mental computers” could be some toy computers only.

In this paper, there is the definition of the mental solitons the minds consist of but we must emphasize one element in the definition i.e. that the mental solitons are the dark-matter structures as well so in the mental structures in the Universe composed of the mental solitons is coded a knowledge. Can we “read” such knowledge using advanced mental computers? Some people are able to read thoughts of other people – can it be controlled?

Can advanced mental computers be more creative than human mind?

Notice that here we present only the mechanism responsible for creation of the mental solitons and their interactions. There are many unsolved problems concerning the mental computers so this paper is only an initiation in the idea.

We showed that the structure of DNA is defined by two states of the weak charge of neutrinos (this leads to alternately setting the deoxyribose and the phosphoric acid along a line), is defined by four different states of the stable neutrino-antineutrino pairs (they lead to the four different bases i.e. A, C, G and T), by decays of charged pions into entangled electron/positron and three neutrinos (they lead to the codons), by the two states of spin of the neutrino-antineutrino pairs (they lead to the double helix), and by the Pauli Exclusion

Principle (each next proton in a helix must have different direction of spin). We showed as well that human life should be usual.

We need the luminal Einstein spacetime, nuclear matter, nuclear strong interactions, and quantum entanglement to produce the precursors of DNAs and we need the different atoms, nuclear strong interactions (the charged pions), and electroweak interactions to transform the precursors into the genomes composed of atoms/ions.

Emphasize that presented here a model of mental computer and the origin of DNAs do not follow from separated ideas but result from the very fruitful and coherent Scale-Symmetric Theory.

References

[1] Sylwester Kornowski (2015). *Scale-Symmetric Theory*
[1A]: http://vixra.org/abs/1511.0188 (Particle Physics)
[1B]: http://vixra.org/abs/1511.0223 (Cosmology)
[1C]: http://vixra.org/abs/1511.0284 (Chaos Theory)
[1D]: http://vixra.org/abs/1512.0020 (Reformulated QCD)

[2] Sylwester Kornowski (2016). ”The Dark-Matter Mechanism and Orbital Speeds of Stars in Galaxies”
http://vixra.org/abs/1410.0031

[3] Sylwester Kornowski (2015). ”The Ultimate Picture of Particle Physics and Cosmology”
http://vixra.org/abs/1309.0135

[4] M W Zwierlein, J R Abo-Shaeer, A Schirotzek, C H Schunck and W Ketterle; *Vortices and superfluidity in a strongly interacting Fermi gas*; Nature **435**, 1047-1051 (2005)