Exploration

Epigenesis, Inherited Memories & Moods Lasting over Several Generations

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Abstract

TGD allows to identify quantum correlates of moods in terms of bio-harmonies defined as allowed light 3-chords defining representation of the genetic code. Even bio-molecules would have emotional states, moods affecting gene expression and having thus behavioral correlates. This encourage the view that conditionings correspond to long lasting moods. Also epigenesis could be understood in terms of moods having time span of even several generations. This picture conforms with zero energy ontology allowing to see bio-systems as 4-D systems.

1 Introduction

Nikolina Benedikovic had an interesting comment concerning multiverse interpretation. This motivated to write a summary about the connection between epigenesis, inherited memories interpreted as behaviors and moods lastring for seveal generations. Nikolina's comment was following.

"*One can imagine an intelligent amoeba with a good memory. As time progresses, the amoeba is constantly splitting, each time the resulting amoebas having the same memories as the parent. Our amoeba hence does not have a life line, but a life tree.*" - Huge Everett

Nikolina: Dear Mr. Everett! Before we find out what the true interpretation of quantum mechanics is, we will have to answer this question; why the amoeba possesses this "super power" of splitting and the electron and human being don't.

I agree with Nikolina. The following is my comment about what is involved. I proceed by questions.

2 Questions and answers

I will describe TGD view about memories as behaviors by making questions and answering them.

2.1 What behaviors are?

The behavior of amoeba has nothing to do with parallel universes of Everett. The behavior as such is however highly interesting and challenges standard theories of biology and perhaps also of physics. Memories seem to replicate.

1. What do we mean with memories now: do we mean behaviors, skills, conditionings? Or episodal, sensory memories. I think it is memories in the first sense of the word. Suppose that essentially conditionings are in question.

   In this respect a lot of progress happened as it was discovered that RNA somehow represents the memories: taking RNA of conditioned sea snail and scattering it over the neurons fo second snail in lab induces the conditons of the snail to these neurons.

2. Epigenetic approach would suggest that the behaviours essentially the same but now one does not have any convincing model for the model of the epigenesis.

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2.2 What TGD inspired quantum biology and neuro-science can tell?

There are two key questions that one must answer.

1. What replication is?

   In TGD Universe we are 4-D entities - quantum states are superpositions of space-time surfaces obeying deterministic dynamics. This solves the problem of free will and basic problem of quantum measurement theory. The superposition of space-time surface would be analogous to superposition of deterministic computer programs, behaviours, or biological functions in classical sense. Free will would select the program [4, 8, 6, 3].

2. What memories as learned behaviours are? One can imagine several models, which need not exclude each other.

   (a) For instance, could it be that the replicas of ameba have geometric past that is partially shared: the part of the past as amoeba before the replication?

   (b) Second TGD explanation would be based on what conditionings are? They involve emotions in an essential manner. Emotions are induced and induce behaviors and conditionings involve long term moods. The mysterious epigenetic inheritance could be inheritance of moods affecting gene expression: moods could be inhereted and have time-span of several generations: this conforms with the first option.

2.3 What moods are?

Suppose that conditions are due to long term moods in turn correlating with behavior and at basic level with genetic expression. Consider a TGD based model for moods, second option.

1. Music - its harmony defined by allowed chords - represents emotions and generates them. The allowed 3-chords of bio-harmony, the set of which can vary, would define the mood.

2. Genes are associated with information. Codon contains 6 bits of information. Magnetic body with large $h_{eff} = nh_0$ is the boss, the "wise guy", controlling biological body and biochemistry so that genetic code must have primary representation at the level of flux tubes. Dark proton sequences at flux tubes interpreted as dark nuclei indeed represent codons as 3-proton units. The states of 3- proton units turn out to correspond to DNA, RNA, tRNA, amino-acids and vertebrate genetic code is predicted [5].

   Chemical representation would be only a secondary representation only, mimicry, and often incomplete.

   Dark proton sequences also realizing vertebrate genetic code would also have positive charge neutralizing the negative charge of nucleotides and make DNA stable. Pollack effect would generate the dark flux tube and this would require metabolic energy and in absence of it DNA would not be stable.

3. Dark proton sequences must also communicate by dark photons with large h_{eff}. The communications must rely on resonance, actually there must be resonance between similar 3-proton units, dark codons. Therefore 3-chords consisting 3 dark photons must represent the codons represented by 3 protons [5]. Only identical codons have resonant coupling. This makes possible remote replication of DNA reported by HIV nobelist Montagnier [1] (see `http://tinyurl.com/yygqen5g`).

4. Allowed 3-chords define the harmony and emotional state mood. In TGD representations of emotions in terms of bio-harmony would provide the representation of genetic codons defined by RNA as 3-chords of light, triplets of 3 dark photons [2, 7]. The icosatetrahedral model for harmony realizing

bioharmony gives also rise to vertebrate genetic code: the 6-bit units defined by codons correspond to ordinary temporarily local intellect, and the harmony to the holistic emotional intellect.

5. RNA and DNA, tRNA, amino-acids would naturally be represented by light 3-chords in communications. Given codon would only tell its name by the chord and resonate with codon having same name. The codons would couple by chords via triple resonance. Same DNA sequences could be in different mood defined by bioharmony and its expression would depend on this: this would give rise to epigenetics. Epigenetic inheritance would be emotions lasting for several generations.

   The bioharmony associated with RNA could represent the mood infecting also DNA and generating DNA expression giving rise to the behavior related to conditioning.

6. If this were the case then the inheritance of memories (in this sense could be inheritatance of conditionings as long term moods. The replications of RNAs and DNAs and possible other biomolecules carrying the conditioning would give rise to replication of memories as behaviors induced by moods.

7. These moods can be very long term moods and extend over generations. This would fit with the model in which replicated amoebas have the 4-D magnetic body amoeba of the geometric past as part of their 4-D magnetic body.

To sum up, behaviors as conditionings could be caused by moods, which can last for several generations. This would bring in magnetic body as active agent. The representation genetic code in terms dark proton sequences and by 3-chords of dark photons would give a realization of both the "bitty" and emotional aspects of intelligence. Also the notions of 4-D brain and organism having temporal span of several generations as space-time surfaces would be essential for the understanding the inheritance of emotions. We should be very careful for what we do since also our children can feel themselves proud of or guilty for what we did.

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