

*Water memory and homeopathy

1. Homeopathy and water memory.

- (a) Procedure: repeated dilution and agitation of water sample containing the molecules causing the effect which the remedy is intended to heal. "Alike likes alike" rule.
- (b) Brings in mind vaccination causing immune system to develop resistance. The procedure somehow seems to store information about the presence of the molecules and this information induces immune response.
- (c) Ultra-naive objection of skeptic. The repeated dilution involved with the preparation of homeopathic remedy implies that the density of molecules is so small that the molecules can have absolutely no effect.
- (d) A lot of research is done by starting from idea that electro-magnetic fields associated with the molecules in question store the information. Benveniste et al managed to record the VLF frequency finger print of bio-active molecules and record them in binary form allowing to yield the same effect as the real bio-active molecule induced. Benveniste was labelled as a fraud.
- (e) Benveniste's work has been continued and HIV Nobelist Montagnier produced what might be regarded as remote replication of DNA using method very similar to that used in manufacturing homeopathic remedy.

2. Exclusion zones and fourth phase of water.

- (a) Pollack et al discovered what they call exclusion zones and fourth gel like phase of water.
- (b) Exclusion zones are negatively charged regions of water with positively charged environment. They act like batteries and have rather exotic properties: for instance various impurities are repelled from exclusion zone
- (c) The stoichiometry of water is $H_{3/2}O$: every fourth proton is taken to the positively charged environment.
- (d) TGD proposal: protons go to the flux tubes of the magnetic body of the exclusion zone and form dark proton sequences.
- (e) Dark proton sequences realize vertebrate genetic code. Counterparts for DNA, RNA, amino acids and even tRNA.
- (f) Flux tubes could appear as U-shaped pairs with magnetic fluxes running in opposite directions. The dark protons at the two flux tubes could form spin singlet Cooper pairs, $L=2$. Magnetic field would stabilize the pairs: the interaction energy would be large due to the large value of h_{eff} . The pair of flux tubes would define the analog of DNA double strand. This kind of structure has been earlier proposed to accompany cell membrane.

3. Dark photon-biophoton connection.

- (a) Biophotons having spectrum in the visible and UV are decay products of dark cyclotron photons with universal energy spectrum if $h_{eff} = h_{gr}$. connection is assumed. $h_{em} = h_{gr}$. is also very natural assumption for ATP synthase which can be regarded as a molecular motor whose rotation velocity appears in the formula for h_{em} .
- (b) Any charged system in Earth's connected to Earth by flux tubes generates cyclotron dark photons decaying to biophotons.
- (c) Biophotons induce transitions in biomolecules because the energy range is in visible and UV. Magnetic bodies control biochemistry via resonant coupling with biophotons.

4. Molecular level recognition mechanism as building brick of primitive immune system:

- (a) Molecules have U-shaped flux tube loops with fluxes going in opposite directions. This makes possible super-conductivity.

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- (b) The flux loops can reconnect and this leads to the formation of 2 parallel flux tubes connecting two systems. Stable reconnection requires that magnetic field strengths are same at the flux tubes. Same cyclotron frequencies and resonant interaction. This would define molecular mechanism of recognition and sensing presence of invader molecules.
 - (c) Natural to expect that the systems with magnetic body are constantly varying the thicknesses of the flux tubes and in order to reconnect with the magnetic body of possible invader.
 - (d) How system could stabilize itself so that it would receive signals only from one kind of molecule specified by its cyclotron frequency spectrum. The flux tube thicknesses should be stabilized.
 - (e) Could dark proton sequences allow to stabilize the flux tube thickness? Dark proton sequences have also interpretation as dark DNA sequences. Could they code some information about the invader molecule, say about the knotting and braiding of its magnetic body? The model for living system as topological quantum computer utilizing 2-braiding for string world sheets at 4-D space-time leads to the idea that 3-D coordinate grids formed by flux tubes are central for TQC: each node of grid is characterized by 6 bits telling about the topology of the node concerning 2-braiding. Could the 6 bits of dark DNA code for the local topology of the invader molecule and an the flux tube complex mimicking it?
5. Possible mechanism of water memory and homeopathy.
- (a) Exclusion zones could define primordial life forms with genetic code. They are able to detect the presence of invader molecule from its cyclotron frequency spectrum. They form memory representations of the invader molecules in terms of dark proton sequences defining dark genes which later are transformed to chemical genes coding for proteins recognizing the presence of invader molecule and attaching to them by h_{eff} reducing phase transition reducing the length of connecting flux tube. This would have been the primordial immune system.
 - (b) Later dark genetic code transformed to chemical genetic code as dark DNA strands were formed around dark double strands and large number of other biological functions emerged besides immune response.
 - (c) The mechanical agitation in the manufacturing of homeopathic remedy generates exclusion zones and new primitive life forms by providing the needed energy. These in turn recognize and memorize invader molecules or their already existing representations as exclusion zones.