Methylation of DNA, instinct, technology and phylogeny: A hypothetical epigenetic modus operandi—the bio-quantum hard-drive

I have recently read a paper, regarding the persistence of long term memory in Aplysia given disruption of mnemic neural connectivity: "Reinstatement of long-term memory following erasure of its behavioral and synaptic expression in Aplysia," Shanping Chen, Diancai Cai, Kaycey Pearce, Philip Y W Sun, Adam C Roberts, David L Glanzman:

http://dx.doi.org/10.7554/eLife.03896

It appears the the epigenetic portion of DNA itself holds the information apart from the neural connections. Only a small bit of stimulus is needed to create the extinguished behavior. This looks like a dead ringer for the mechanism responsible for the instantiation of instinct and/or phylogenetic memory. Perhaps the author has already found the mechanism?

"…these results imply that the persistence of memory does not require the stability of particular synaptic connections...…suggest that the persistence of sensitization related LTM in Aplysia does not require the persistence of the synaptic connections generated during learning. Rather, LTM appears to be regulated by a homeostatic mechanism that specifies the net synaptic strength according to experience. …According to this scheme, synapses serve merely to express LTM, they are not sites of LTM storage." I say: Line 379 to 386 indicate that genetic storage of information…specifically the epigenetic portion is the store!! And this: "Although early evidence indicated that learning -induced DNA methylation in the hippocampus was transient and readily reversible (Miller & Sweatt 2007), a more recent study has reported that contextual fear conditioning in rats induces DNA methylation of the gene for calcineurin in cortical neurons that persists for at least a month (Miller et al 2010). …Thus, DNA methylation may constitute an epigenetic mechanism for the lifelong storage of memory (Day & Sweatt 2010)."

It seems like the sensitivity to the stimulus which can be elicited, as a waiting memory, even after the neural connectivity is disrupted, is a good bet for a system with two layers of informational protection. That which is epigenetically encoded can then be retrieved to provide an informational back up if systemic disruption is encountered. Only a bit of stimulus…and presto…a patterned behavior emerges from DNA, expressed from encoded epigenetic mnemic storage in response to the familiar condition. Now, along with this, it is possible, and not entirely unlikely after understanding something of the intra-connectivity of the quantum coherent bio-system, that another layer of functionality could be implied by the very familiar pattern of "ripe" response, just waiting for conditions to cause its pre-patterned emergence: instinct and the phylogenetic—A behavior just waiting to be brought to fruition.

So, an experiment could substantiate or disprove the notion: One group of Aplysia are given stimulus over and over spanning many generations. The young then, without conditioning, should display appropriate instinct once exposed to the same stimulus…the

response waiting in the genes as sensitivity and predisposition toward pre-patterned behavior…"ripe fruit." The next step is to repeat the experiment adding an agent, which to some extent blocks the DNA methylation process. No instinct, or one of reduced strength, should be present.

As to the phylogenetic, let us imagine that half the information is transferred by each parent as one would expect. If the RACE had encountered the SAME stimulus…the trait would indeed be passed on as it has been independently encoded in each parent, now represented in full between the two additive portions of genetic information…hence: the phylogenetic.

Next, I would like you to consider the fact that quantum entangled effects, although calculated at absolute zero, have a direct bearing upon events taking place at room temperature, even in warm wet biological systems. From "Quantum Entangled Single Bioorganic Supramolecules as Light Absorbing and Light Emitting Logical Devices," Arvydas Tamulis, Mantas Grigalavicius, Julius Serbenta, and Kristijonas Plausinaitis: "We expect that our quantum entanglement calculations results should also be applicable in room temperatures situations based on the work of Cai et al. where the authors proved that quantum entanglement can be continuously generated and destroyed by non-equilibrium effects in an environment where no static entanglement exists. Therefore we may expect that quantum entanglement can be observed in our photosynthetic system or even in the complex biological processes of natural living systems."

Please remember that DNA itself is held together by way of entanglement.

http://www.technologyreview.com/view/419590/quantum-entanglement-holds-dna-together-say-physicists/

http://arxiv.org/abs/1006.4053

Please recall that DNA is a source of biophotonic (nonlocal) emissions and a receiver as well, and can be epigenetically encoded via methylation by way of patterned light and sound.

http://www.viewzone.com/dnax.html

http://www.ncbi.nlm.nih.gov/pubmed/6204761

https://noeticdigest.wordpress.com/2011/10/11/the-language-of-dna-can-dna-be-reprogrammed-by-words-and-frequencies/

It appears that the search for a quantum hard drive has been poorly aimed. Low temperatures are not needed, and we may extend the active time of informational storage from the current six hours, to an infinite length, if we understand that quantum processes and entangled dynamism are present at room temperatures and in biological informational storage systems. DNA itself, this "information molecule," is the key! Here

we have a hard drive with optical or phononic (sound) input, electrochemical informational encoding and storage, and optical (UV) output. The epigenetic portion of the DNA molecule is the informational storage medium. The biophotonic output (or perhaps less optimally, a read out from associated RNA), is the way information is expressed and retrieved once encoded.

Reverse engineering would provide the informational definition: one would put known information into the DNA via light or sound, and observe the optical alterations in the resultant patterned biophotonic emanations (or less optimally, by way of analysis of associated RNA). This method will provide a systemic "codec," by which I mean: systematized informational definition by way of output correlation with a specific quanta of known qualitative input.

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