

A few comments on Montagnier and Gariaev's work: Omne vivum ex vivo via crebritudo?

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Abstract

In a series of papers, Luc Montagnier and his group reported various effects of electromagnetic fields to DNA. It has been shown that genetic information can be transmitted to water through applications of electromagnetic field. These experiments seem to confirm what have been done by Peter Gariaev and his group in the past 3 decades, i.e. that DNA has wave character. Of course, non-particle view of DNA challenges standard paradigm of DNA and biology. The purpose of this paper is to review shortly such a non-particle view of DNA. To conclude, then we consider an extension of known adage: “*Omne vivum ex vivo*”, to become “*Omne vivum ex vivo via crebritudo*” (crebritudo is the Latin word for “frequency”).

Introduction

In a series of papers, Luc Montagnier and his group reported various effects of electromagnetic fields to DNA. It has been shown that genetical information can be transmitted to water through applications of electromagnetic field.[2][3] These experiments seem to confirm what have been done by Peter Gariaev and his group in the past 3 decades, i.e. that DNA has wave character. Of course, non-particle view of DNA challenges standard paradigm of DNA and biology. The purpose of this paper is to review shortly such a non-particle view of DNA.

Concluding her review on Montagnier's experiments, Laurence Hecht wrote [1]:

“With the results of Montagnier, we recognize that the principle, *omne vivum ex vivo*, still holds, but only on the condition that we adopt a non-particle conception of life.”

Considering that there are extensive reports since 1980s concerning the possibility of long distance communication between cells, especially using em. Field, then it seems appropriate to consider an extension of known adage: “*Omne vivum ex vivo*”, to become “*Omne vivum ex vivo via crebritudo*” (Note: crebritudo is the Latin word for frequency).

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DNA and De Broglie's matter-wave hypothesis

Experiments carried out by Montagnier group seem to suggest that genetic information can be transmitted to water via electromagnetic waves. This conclusion is quite impressive, since it challenges standard paradigm in biology.[2][3] And it is related to Gariaev's proposal of DNA wave genetic.[4][5][6]

That cell has capability to communicate at a distance may be not surprising, since there are reports indicating that effect.[7][8] But that electromagnetic field can transmit genetic information to water is unexpected result.

Nonetheless, it seems that this result bring us back to an old battle between corpuscular view and wave view of matter, i.e. Newtonian corpuscular model vis a vis Huygens-Fresnel's wave model of matter.

Louis De Broglie seems to give a hint on that issue by proposing matter-wave hypothesis, but it appears that this issue is not solved completely.

For clarity, let us put aside objections on Einstein's special relativity. Let us follow De Broglie's argument in his thesis:

$$E = \hbar f, \tag{1}$$

And

$$E = mc^2. \tag{2}$$

Equating (1) and (2) we get:

$$\hbar f = mc^2, \tag{3}$$

or

$$m = f \frac{\hbar}{c^2}. \tag{4}$$

In other words, matter comes from frequency. Therefore, it seems possible at least in theory that not only em. Field can transmit genetic information to water, but also that em. Frequency can alter genetic code.

As a note, although our starting point of using (1) and (2) comes from De Broglie's original proposal, but the conclusion is rather different, because then we do not have to accept his pilot wave model. Of course, you do not have to follow this argument, since you can also define energy in classical em. Field.

It seems that equation (4) can give some hints to explain many phenomena related to Montagnier and Gariaev's experiments. And it opens new ways to do DNA as quantum biocomputer. [4]

If this proposition holds true, then it is possible to extend the old adage: "all life come from life" (*Omne vivum ex vivo*) to become "all life come from life through frequency" (*Omne vivum ex vivo via crebritudo*). This is because genetic information can be altered or transmitted through em. Field and Frequency.

As an alternative word, one can use 'frequentia', so it becomes: "*Omne vivum ex vivo via frequentia*." (We have not yet consulted a Latin linguist.)

Possible test of the proposed concept

We recognize that the proposed new concept of "all life come from life through frequency" (*Omne vivum ex vivo via crebritudo*) challenges the standard paradigm in biology. So, allow us to suggest a possible test of the proposed concept, as follows.

Provided we define f = yield frequency, i.e. frequency where matter becomes wave.

Then by defining a new parameter:

$$k = \frac{\hbar}{c^2}, \quad (5)$$

Then we can write equation (4) as a ratio:

$$\frac{m}{f} = k. \quad (6)$$

In other words, from the above equation we can predict that the ratio between a small mass (m) like photon with its yield frequency (f) is always a constant. The small mass here can be extended to neutrino, electron, muon etc.

We hope that the above equation can serve as a means to test the proposed concept.

Possible application

One possible application of this proposition is alternative method of cancer treatment using various frequencies. It is known that some frequencies like 444Hz can kill cancer cell without destroying the normal cells. Such a method seems worthy to be investigated and developed further.[9]

Luc Montagnier et al. also uses very low frequency such as 7.83 Hz, which seems to be closely related to the Schumann resonance of 7 Hz. Whether or not such a 7.83 Hz corresponds to ambient frequency of electromagnetic noise in water, should be tested with experiments.

In the next section we will discuss models of DNA as solitary wave (soliton). This model will enable us to verify how DNA interacts with external em. Frequency.

DNA as Perturbed SGE Soliton

There are various models of DNA, one of them is using solitary wave [10]. Its use as a model of phyllotaxis systems including DNA has been proposed elsewhere [11][12][13][14].

Now we will only consider Perturbed sine-Gordon equation (PSGE) as a model of interaction between soliton and external em. Field.

Perturbed SGE come in a variety of forms. One common form is a damped and driven SGE: [11, p.17]

$$\Psi_{tt} + \Phi\Psi_t - \Psi_{zz} + \sin(\Psi) = F \quad (7)$$

In addition, the following two versions of the perturbed SGE have been studied in the literature, including:

- a. Directly forced SGE: [11, p.19]

$$\Psi_{tt} - \Psi_{zz} + \sin(\Psi) = Mf(\omega t) \quad (8)$$

- b. Damped and driven SGE:

$$\Psi_{tt} - \Psi_{zz} + \sin(\Psi) = Mf(\omega t) - \alpha\Psi_t + \eta \quad (9)$$

In the meantime, (2+1)D SGE with additional spatial coordinate (y) is defined as: [11,p.21]

$$\Psi_{tt} = \Psi_{xx} + \Psi_{yy} - \sin(\Psi) \quad (10)$$

In their in-depth review of SGE, Ivancevic and Ivancevic [11] discuss potential applications of SGE solitons in DNA, protein folding, microtubules, neural impulse conduction and muscular

contraction soliton. New insights may be expected in the near future in these biological fields, based on sine-Gordon equation soliton.

Concluding remarks

In a series of papers, Luc Montagnier and his group reported various effects of electromagnetic fields to DNA. It has been shown that genetical information can be transmitted to water through applications of electromagnetic field. These experiments seem to confirm what have been done by Peter Gariaev and his group in the past 3 decades, i.e. that DNA has wave character. Of course, non-particle view of DNA challenges standard paradigm of DNA and biology. The purpose of this paper is to review shortly such a non-particle view of DNA.

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References:

[1] Laurence Hecht. “Luc Montagnier's Revolution in Biology: New Evidence for a Non-Particle view of Life.” *21st Century Science and Technology*, Winter 2010/2011. URL: http://www.21stcenturysciencetech.com/articles_2011/Winter-2010/Montagnier.pdf

[2] Luc Montagnier, et al. (2011). “DNA Waves and Water.” *5th Intr. Workshop DICE 2010; Journal of Physics: Conf. Series 306 (2011) 012007*; [2a] <http://arXiv.org/pdf/1012.5166>

- [3] Luc Montagnier et al. (2015) "Transduction of DNA information through water and electromagnetic waves," arXiv:1501.0162 [q-bio.OT]; see also [3a] Luc Montagnier, et al. (2009) "Electromagnetic Signals are produced by aqueous nanostructures derived from bacterial DNA Sequences." *Interdiscip. Sci. Comput. Life. Sci.*
- [4] Peter Gariaev, et al. (2011) "DNA as basis for Quantum Biocomputer," *DNA Decipher Journal, January 2011, Vol. 1 Issue 1*, pp. 025-046. <http://www.dnadecipher.com>
- [5] Matt Pitkanen (2011) "DNA & Water memory: comments on Montagnier group's recent findings," *DNA Decipher Journal, January 2011, Vol. 1 Issue 1*, pp. 181-190. <http://www.dnadecipher.com>
- [6] Peter Gariaev & Matt Pitkanen (2010) "Model for the findings about Hologram Generating Properties of DNA," url: http://tgd.wippiespace.com/public_html/
- [7] Ashkan Farhadi (2014) "Non-chemical distant cellular interactions as a potential confounder of cell biology experiments," *Frontiers in Physiology*, Oct. 2014, Vol. 5 Article 405
- [8] A.V. Khalyavkin & A.E. Gurvich (1978) "Role of distant interactions of lymphocytes in the development of antibody formation in vitro," *Bull. Exp. Biol. & Medicine*, Plenum Publishing Corp. Available at www.researchgate.net
- [9] Victor Christianto (2015) "A review of Cancer electromagnetic frequency therapy: Towards Physics of Cancer," *Intr. Front. Sci. Lett.*, www.scipress.com
- [10] Victor Christianto & Yunita Umniyati (2015) "Graphical Plot of Soliton Solution of sine-Gordon model of DNA," *DNA Decipher Journal*, www.dnadecipher.com
- [11] Vladimir G. Ivancevic and Tijana T. Ivancevic. *Sine-Gordon solitons, Kinks and Breathers as Physical Models of Nonlinear Excitations in Living Cellular Structures*. arXiv:1305.0613 [q-bio.OT]
- [12] Cristiano Nisoli (2009) "Spiraling soliton: A continuum model for dynamical phyllotaxis of physical systems," *Phys. Rev. E* 80, 026110
- [13] Ludmila V. Yakushevich. *Nonlinear Physics of DNA*. Second, rev. ed. Berlin: Wiley-VCH Verlag GmbH & Co., 2004
- [14] Sara Cuenda, Angel Sanchez, Niurka R. Quintero. Does the dynamics of sine-Gordon solitons predict active regions of DNA? *Physica D* 223 (2006) 214-221.