# ON THE GROWTH MECHANISM OF LIVING ORGANISMS

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Now in biological science the point of view is adopted, that the growth of living organisms is the result of an interaction from genes and environment. Such interpretation of growth process explains, where the information about the body is stored, but leaves not the clear the mechanism of implementation of this information. That is how the genes forces the atoms of different elements of the periodic table to took a well-defined position. In solid-state physics for describe the processes in different structures are used statistical methods and as the tool the quantum mechanics serves. However, for description of processes in living matter the statistical approach is not appropriate. The difference between the biological structures and semiconductors consists that the living organisms are complex structures containing many elements of the periodic table. In addition, the biological objects represent multi-dimensional structures. The probability that even one atom of the desired substance will be at the right time in the right place is very small.

The theory, developed in the book [1], allows shedding light on the mechanism for realization of the information contained in the genes during the growth of living organisms. The essence of this approach is that the material bodies are presented as an assembly of particles, which are described by wave functions De Broglie.

$$\psi(r,t) = Ce^{i(-\omega t \pm kr)}. \tag{1}$$

Expression (1) can be written as a spherically symmetric harmonic wave:

$$\psi(r,t) = C_A \frac{e^{i(-\omega t \pm kr)}}{r}. \tag{2}$$

Wave (2) can be written in the trigonometric form:

$$\psi(r,t) = \frac{C_A}{kr} \sin kr \sin \omega t. \tag{3}$$

The amplitude $C_A / kr$ determines the energy of a spherical wave, $\sin kr$ defines the spatial distribution, and $\sin \omega t$ - the time dependence. Expression (3) rigidly connects the energy of a spherical wave with its frequency. An attempt to change one of these parameters leads to divergence.

In the case of interaction between two such stable wave formations, the correlation between $\sin kr$ and $C_A / kr$ will be compromised. The divergence will be eliminated if the both waves will be reconstructed, so that in their own reference systems the correlation between amplitude and frequency will be recovered. If in the processes of restructuring any energy will be emitted, the resulting system will be stable. Thus, the waves may form stable systems. When such system enters in the field of other particles, or in fields formed of several particles, the more complex stable forms will be formed.

Thus, the body can be represented as a superposition of the wave functions of the particles from which it consists. Namely this field, distributed in space, force the atoms of different elements to occupy a certain position in space. Difference between living organisms and lifeless bodies consists that the undular fields of living organisms are synchronized. This synchronization is achieved during growth and persists throughout the life of a living organism.

[1] Mironov B. Mechanisms of Electromagnetic and Gravitational Fields. Virtualbookworm US. (2007) 228 p. ISBN 978-1-60264-105-1.