Theory of originating protolife on the Earth

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Abstract

This theory concerns to systems, which one yet not living, but already and not dead. The solution of a problem of an origin of life lies through a solution of a problem of a genesis protolife, being a link between the living and not living nature.

This theory concerns to systems, which one yet not living, but already and not dead. The eternal problem of originating of life on the Earth till now is not resolved because of the insecure methodical approach to the solution of this problem. The scientists attempt to make a supermixture from separate amino acids and hope, that in this mixture life spontaneously will be engendered. For certain it is possible to assert, that it will not happen. The solution of a problem of an origin of life lies through a solution of a problem of a genesis protolife, being a link between the living and not living nature.

For originating protolife we will need water with dissolved in it by a small amount of any salt creating meager concentration of cations and anions, colloidal particles (for example, of volcanic ashes) and outside a power source (photons, radioactive decay of isotopes or ultrarays). The principle of originating protolife is identical to any «nutrition», which one should be gas. At the presence of Hydrogenium will arise «hydrogenous protolife», in azote - «nitrogen», in sulphur dioxide - «sulfuric», in ammonia - «ammoniacal» etc. We here will be interested by originating «carbon» protolife on the basis of usage qua of «feed» of carbon dioxide.

At hit of colloidal particles in water on their surface are adsorbed potentialdeterminant ions, which one give to particle an electrical charge (more often negative, approximately, 300 mV). The polar molecules of water are marshaled along lines of force of an electrical field and will formes thermodynamically a steady solvate layer by thickness, approximately, 300 $\overset{0}{A}$. The electric field strength in this layer 10^7 V/m ([1] chapter 5 in section «Colloid systems»), i.e. near to a surface of a particle it has properties of a solid, which one in process of deleting from a surface step-by-step loses. Because of intensive Brownian motion of a micelle, the counterions in solution can not reimburse electric charge of a colloid particle at an adsorption on a surface of a solvate layer, therefore particle has a residual electrokinetic potential about 30 mV.

At approach two negatively of charged micelles in space between them the cations are tightened, which one also will formes a particle, similar micelle, which one more correct to call aquacelle, since it has not a solid core (figure 1a). Thus, any approach of micelles and aquacelles generates formation of aquacelles, i.e. last are intensively propagates itself. And at approach two aquacelles of one sign of a charge arises new aquacelle of the opposite sign of a charge. Though the weight concentration of aquacelles does not exceed 0.01 %, the countable concentration makes, approximately, 1 billion of aquacelles in 1 cm^3 of solution.

At a following stage aquacelles with opposite charges will formatives dipoles and thus considerably augment a life time of aquacelles (figure 1b). The dot lines shown a direction of axes of water dipoles in a solvate layer.

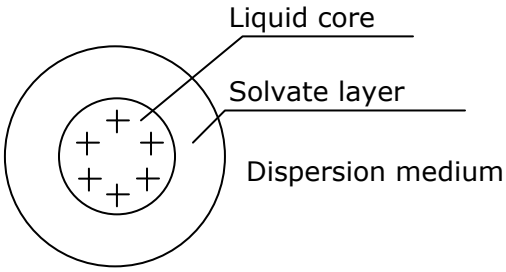

Fig. 1a

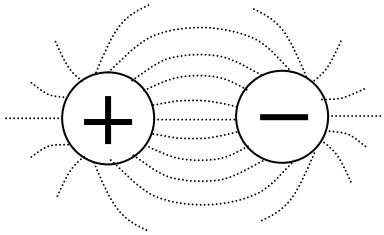

Fig. 1b

Dipoles of aquacelles, inclusive different cations and the anions, being attached to each other by unlike poles will formatives a chunk of a three-dimensional network, it would be possible to call which one «protocellule» (figure 2). On a figure of a line mean chains of dipoles aquacelles. Thus protocellule has the even greater strength, than separate chain of dipoles. It quite can accept the spherical form from power reasons and in this case will become very similar to a living cell.

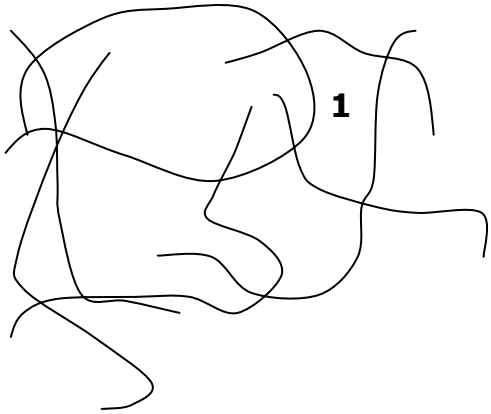

Fig. 2

Here it is necessary to recollect catalysts of chemical reactions. The catalyst will be most effective only in the event that its geometrical form of a molecule most approaches for the given chemical process. Any distorting of this form decontaminates («poisons») catalyst. For example, in a cell indicated by number 1 of a figure 2 the most eligible conditions for synthesizing from carbon dioxidal and water, for example, molecule of a glucose $C_6H_{12}O_6$ can be added up. Then the given cell will and henceforth emboss molecules of a glucose, which one, apparently, will encourage formation of cells similar on mother in other places of protocellule or others protocellules. Therefore cell - catalyst can be esteemed, as the great-grandmother DNA, and made by means of its molecule, as the great-grandfather of enzymes.

Apparently, that under the described scheme of activity protolife production of any organic compounds, for example, methane and hydrocarbons with allocation in atmosphere superfluous in these processes of oxygen is possible. It is possible, that by reserves of gas and oil the mankind is obliged to just protolife.

Any organic matter at incineration in environment of oxygen basically will formatives water and carbon dioxide. Therefore with the help of catalysts and external power sources which are capable to burst any chemical bond possible implementation of reverse process: synthesizing of organic compounds. Thus, protolife though is not usefulness life, but at a molecular level has all attributes of life: reduction of an entropy at the expense of external energy, reproduction, competition for power and alimentary resources, strife for existence and evolutionary selection. Here it is necessary to mark, as the present life at a molecular level does not differ from the lifeless nature. That will be further, it is better to ask of the Darwin.

Reference:

1. http://www.new-physics.narod.ru