

«The main sequence of differentiation of primary space substance – Science about elements (elementology) / the General principles of self-organizing baryons matters»

GENERAL INFORMATION.

Background

By the plans, the purposes and problems NASA Request For Information (RFI): Scientific Connections between NASA's Earth Science Division and Astrobiology Program «The Past, Present, and Future of Life on Earth» from 7/30/2010, practically doesn't differ from the researches spent to Russia.

In life origin in the Russian Federation within last 10 years intensively is engaged more than 40 academic establishments of the Russian Academy of Sciences. For example: the Program № 18 (former 25) the Subroutine I «the Origin and biosphere evolution» and the Program № 25 Subroutine II now «the Origin of life and evolution of geo-biological systems», in them occupies a key place a problem of an origin of life. There is site Cytology and genetics institute the Siberian Branch of the Russian Academy of Science devoted to the Subroutine II, in it there is a literature and articles, some honeycombs of sources with the short resume (<http://evol.paleo.ru/index>; <http://www.bionet.nsc.ru/live/live.php?r>).

Under these Subroutines hundreds articles and some monography are let out. For example: Галимов Э.М., Феномен жизни: Между равновесием и нелинейностью. Происхождение и принципы эволюции. Изд. 3, стереот. 2009. 256 с. (<http://www.urss.ru/cgi-bin/db.pl?lang=Ru&blang=ru&page=Book&id=77382>). Проблемы зарождения и эволюция биосферы : сборник / Рос. Акад. Наук, Совет Подпрограммы I Программы № 18 Президиума РАН «Проблемы зарождения и эволюции биосферы» ; под ред. Э.М. Галимова. – М: URSS, 2008. – 552 с. (<http://www.urss.ru/cgi-bin/db.pl?lang=Ru&blang=ru&page=Book&id=85506>). It is known about 4000 works and ten the monography devoted to a problem of an origin of life (Костецкий, Э.Я. 2005; <http://evol.paleo.ru/index>) »).

Summary

The summary to L.A. Sokov's monography:

«The main sequence of differentiation of primary space substance – Science about elements (elementology) / the General principles of self-organizing baryons matters»

In 1965 me have invited to work in biophysics institute. Within a year while the admission to work was made out, I considered the purpose and level of possible claims within the limits of the general problems of this institute. At institute in 1966-1972 questions, in the beginning purely physiological were mentioned. Ideas come to an operating time, gradually originally the object in view has acquired new problems, has extended and, eventually, it «was necessary» to change the formulation the purpose and to take up the problems itself and reorganization from primary space prevalence of chemical elements to chemical elementary structure of live substance and the person, processes of receipt and deducing, indicators of elementary structure of systems, bodies, fabrics and etc., from a position of the periodic law and their electronic structure, laws of quantum mechanics http://ecoradmod.narod.ru/rus/persons/sokov_1_a.html.

The work purpose – to reveal the general laws (from the general to the particular), underlying physical and chemical differentiation of primary space substance – a primary mix of isotopes of chemical elements of system of their formation in «one key». Representation Started with that matter self-organizing occurs only by means of «blind» forces of physics. The nature in self-organizing live «uses laws of physics and anything except physics laws» ... «the unique «watch-maker» in the nature – blind forces of physics, though and very specifically working here» (Dawkins, R., 1986; <http://lib.rus.ec/b/153786/read#t1>).

Purpose realization consisted of estimation, the analysis and-or the decision of some problems:

- 1) formation and evolution of isotopes of chemical elements;
- 2) distribution and redistribution (self-organizing, differentiation:) isotopes of chemical elements;
- 3) an origin of the self-organized and self-replicating systems, their evolution (all live);

4) a role of even -odd kernels in formation and physical and chemical self-organizing of isotopes of chemical elements;

5) mutual relation of fields and the objects consisting from baryons of a matter.

The primary goal – to reveal the general laws of physical and chemical self-organizing (differentiation) ..., its decision, in some measure, concerns problems «the Origin and biosphere evolution» (it is a separate problem and in work was not main), especially in aspect of chemical evolution – occurrence and development stories to the biological molecules which consist of isotopes of chemical elements and arise from them. Revealing of laws of physical and chemical differentiation of a primary mix of isotopes of chemical elements, the Origin and biosphere evolution» has allowed to find new approaches and solutions of a problem«, and also in a new fashion to look at physiological and biochemical processes in an organism. However the main thing, of course, laws of self-organizing (synergy) of a primary mix of isotopes (baryons matters) – problems 2), 3) and, in some measure, 4) from a position of the periodic law, an electronic structure, substantive provisions of laws of quantum mechanics.

During hundreds years an origin and evolution of the live try to reproduce in vitro, or to explain, build on the private facts and to understand transition from separate, private to the general (Lehninger, A. «Principles of Biogeochemistry», Worth Publishers, Inc., 1982, p. 73-75), including in Russia within 2000-2010, in Programs № 18, 25, Subroutines I and II

«The basic tendency of development of a modern science is amplifying specialization. A specialization positive side is unconditional increase of efficiency of scientific research in concrete area. However thus complete representation about an object of research without what the received knowledge can't be applied with advantage inevitably suffers. Especially it concerns sciences about life» ... «the Reverse of the medal – escalating difficulties at generalization of the received material» (www.bionet.nsc.ru/live/live.php?r).

The approach developed by the author excludes these difficulties.

Materials of the long-term work which purpose was reception of the scheme of differentiation of primary space prevalence of chemical elements, meteorites, a lunar surface, earth crust, oceanic water ..., to chemical elementary structure of live substance, the person ... are presented to monography.

Communications between an electronic structure, a structure of a kernel of atom and indicators of chemical elementary structure of various objects, processes and the phenomena responsible for functioning of these objects are analyzed. Communications and correlation communications between 20 astrochemistry, geochemical, biogeochemical objects, live substance, «the standard» person, systems, bodies, fabrics, fibers of plasma of blood, processes of receipt of chemical elements in an organism, by means of an absorption from a gastro enteric path and lungs, deducing from an organism and these objects, processes and physical, physical and chemical, chemical constants of chemical elements are studied. In the analysis the accessory of chemical elements to s-, p-, d-, f-families was considered.

As a result of the analysis the physical, physical and chemical, chemical properties (constant) responsible for formation of chemical elementary structure of meteorites, a lunar bark, globe, earth crust, oceanic water, live substance, «the standard» person, systems, bodies, fabrics ... are revealed.

The Main sequence of differentiation of primary space substance is found: taking into account the maximum size and degree of the importance of factors of the correlation, it is possible to present studied objects in the form of the following «genetic» sequence: space prevalence chemical elements → meteorites – Globe → earth crust – oceanic water → live substance – the person (people). One is found out only (from infinite set) «a productive» branch of the cascade bifurcation, events and, possibly, occurring in the Universe. Article is published: Sokov, L.A. «The main sequence of differentiation of primary space substance», South-Ural scientific center RAMS; Ural State University of Physical Culture of Chelyabinsk, 454092; http://ecoradmod.narod.ru/rus/persons/sokov_1_a.html.

The new class of constants of chemical elements – quantum wave fractals is found. Biochemical, biogeochemical, geochemical, astrochemical constants of chemical elements it is possible to present the cores, as well as physical, physical and chemical, chemical constants at average main quantum number n and on the developed orbital number ℓ in the form of periodic curve, that is quantum wave

fractals (Sokov, L.A., 1998-2009). Key concept of the theory of «usual» fractals is symmetric, in scale invariance self-similarity. Quantum wave fractals differ from «usual» fractals quantum dimension $[(n+\ell) - \text{groups or } (n+\ell\uparrow, n\uparrow)]$. On all quantum wave fractals there is a phenomenon of even-oddness of chemical elements (Oddo-Garkinsa). Wave character of a usual matter is shown In Indicators, characterizing self-organizing processes in the Main sequence of differentiation baryons to a matter and corresponds to a modern third, physical, quantum wave picture of the world. ... (Sokov, L.A. «Self-organizing of not flying baryons substance of Solar system» South-Ural Scientific Center RAMS, Ural State University of Physical Culture of Chelyabinsk, 454092, Russia. Synergetics natural, technical and social and economic systems. The collection of clauses VII international correspondence scientific conference, Togliatty, Russia, 2009).

«The civilization constant» for nonvolatile space substance (baryons matters) is found: «Size of the connected chemical element fibers of plasma of blood, in % from the maintenance in the blood plasma, presented taking into account the main thing (n) and orbital (ℓ) quantum numbers, it is consecutive, from left to right, in ascending order a charge of a kernel of atom, serial number – numbers of Mozli (a quantum elektronno-proton matrix), has periodic character which is similar to periodic building of electronic orbits of elements in periodic system». To quantum wave fractals are devoted: Sokov, L.A.'s articles 1998-2009; the monography of Sokov, L.A. Nephritic a homeostasis of chemical elements, Chelyabinsk, 2006, p. 180. For example, Sokov, L.A. «Self-organizing and subsequent evolution alive in the universe one of properties baryons of a matter» South-Ural Scientific Center RAMS, Ural State University of Physical Culture of Chelyabinsk, 454092, Russia. Synergetics natural, technical and social and economic systems. The collection of clauses VI international correspondence scientific conference, Togliatty, Russia, 2009.

Three groups of bodies, fabrics, processes in a human body, which are defined: don't differentiate chemical elements by sign even-odd; accumulate more than even chemical elements, than odd; accumulate more than odd chemical elements.

It is found, in self-organizing of a primary mix of chemical elements defining role is played by the following data:

- 1) absolute quantities and a set of chemical elements (in an ideal, to it there corresponds nonvolatile substance of Solar system, a planet of terrestrial group ...);
- 2) parity (or oddness) protons in kernels of atoms;
- 3) periodic character of formation of electronic orbits and kernels of atoms ...

The last, in differentiation and self-organizing of a primary mix of kernels defines periodic, quantum wave character of fractals (indicators) of chemical elementary structure of objects, processes, the phenomena.

Self-organizing of the live results from interaction of primary and secondary natural discrete (digital) matrix mechanisms of the Universe. The Universe matter is primary natural active (field, nuclear, electronic ... with a code, the self-organizing program) «multimatrix», and formation of secondary natural active supermatrix structures, that is live substance, gene – its base property. Base units of matrixes are written down in ROM.

The initial stage of self-assemblage of live substance occurs by a principle of «designer Lego», from an improvised material. An improvised material concerns: water in which in a certain proportion all isotopes of chemical elements of periodic system and their salt, a suspension, gaseous substances are dissolved. In 1884 U. Dittmar has opened the law of a constancy of salt structure of sea water: the percentage parity between the main making elements of sea water always is constant (<http://www.naxodka.info/sea/salt.html>). And it means that the percentage parity between the main making elements of sea water on the space objects similar on chemical elementary structure and external conditions terrestrial, will be analogous. As well as properties of carbon. Primary ordering on the basis of carbon is a quantum wave ordering, formation of a quantum wave albuminous fractal by means of a primary active matrix (an elektronno-proton, neutron multimatrix) on which the secondary active matrix structure – a gene ... at the heart of which functioning discrete, physical units of a matrix – chemical compounds is formed, mononucleotides ... (Sokov, L.A., 2009). Secondary ordering live and

its evolution occurs in parallel change of environmental conditions already by means of secondary matrix system, that is a gene.

The monography will be finished by the end of 2010, a maximum the beginning of 2011.

Volume I, ~ 400 pages, tables ~ 60, drawings ~ 90, schemes 12. Literature sources ~ 550-600.

Volume II, The Appendix, 4 pages. The text, the table of the initial data and result, only 281 pages.

Probably 3 variants of the monography: the first – the most economic to print only the received results of research with a discussion minimum ~ 300-350 pages; the second variant – to print completely the first volume; the third – to print all work as a cavity, two volumes ~ 700 pages.

The monography volume in electronic form and after adaptation to a science current state can change considerably, possibly, the monography name will change also. The second monography «The Main sequence ...» as well as the first «The Nephritic homeostasis ... Science about elements» (2006) can occupy a free niche, including in distribution and redistribution questions (synergetic, self-organizing, differentiation) isotopes of chemical elements; an origin of the self-organized and self-replicating systems, an origin live and the subsequent evolution (all live).

Information Requested

The purpose of research works.

To expand and detail the Main sequence of differentiation of primary space substance (primary elementary structure of system of their formation) in which result are formed live substance, the person, the civilization, theoretically to calculate and reveal collateral schemes of differentiation of space substance in the range of power characteristics (roughly from 0 °C to 4000°C and can be to 25000°C and above).

To finish classification of information matrix units (and properties) a matter and types of matrix structures and on its basis to predict possibilities of information properties of a matter in the form of self-education of biocomputers (with reproduction and life-support systems) on the basis of $Z = 6$, or $Z = x$, or $Z = y$ and etc., or only elementary particles, fields in our Galaxy (in the center, an average part, on its suburbs) and the Universe as a whole.

To expand and finish the scheme of development of objects of Space by means of live substance – controllable, directed, accelerated «panspermia» for concrete object.

In connection with the stated I suggest to continue work and to translate researches on a problem of an origin of life on physical level. For this purpose:

1. To continue studying of laws (from the general to the particular), underlying physical and chemical differentiation of primary space substance – a primary mix of isotopes of chemical elements of system of their formation in one key, leading self-organizing and self-assemblage of dynamic and biological dynamic systems.

2. Research to spend with the account, both planets of solar system, and the space objects similar on a chemical compound and conditions:

Formation and evolution of isotopes of chemical elements;

Distribution and redistribution (self-organizing, differentiation and entropy) isotopes of chemical elements;

Origin of the self-organized and self-replicating systems, their evolution (all live);

Role of the even-odd kernels in formation and physical and chemical self-organizing of isotopes of chemical elements;

Mutual relation of fields and the objects consisting from baryons of a matter.

3. Problems of research works and their realization develops of theoretical and experimental parts.

A. A theoretical part of work.

I Analysis of the literature and data gathering on an elementary chemical compound of objects of space, Solar system, live substance, the person ...

II Analytical (statistical, mathematical) work section.

- 1) to Study use possibilities in this theme of various sections of mathematics, analysis mathematical apparatuses. To spend plural the correlation and regression the analysis under already fulfilled scheme between object – objects and object – physical, physical and chemical, chemical constants.

2) to Develop system of information units of a matter, types of matrixes, to construct their classification.

3) to Finish the plan-scheme of development of planets and other objects Solar (not only) systems for residing and-or manufactures of substances necessary for a civilization, materials, including biocomputers of different function by means of live substance.

B. Experimental part of work.

The experimental part of work should be constructed throughout section A, points I and II, and also already found laws (laws) of self-organizing of dynamic and biological dynamic systems.

I. Studying of metabolic possibilities of chemical elements in live substance. To make modeling experiments on sterile mixes of sea water with addition of amino acids, fibers, mononucleotides, carbohydrates ...

2. Comprehensively to study the general mechanisms and indicators of linkage of chemical elements and their isotopes fibers of plasma of blood and fabric fibers, enzymes at various kinds of animals.

By the author of the project it is proved that interaction of fibers of plasma with chemical elements of periodic system is defined by laws of quantum mechanics and has the periodic character which periodicity is similar to periodic character of formation of electronic orbits of elements in periodic system.

3. Distribution and an exchange of the even-odd elements (by quantity of protons) and their isotopes in animal organisms.

The experimental part of work can be specified.

V. Communication with the structures conducting researches of space objects

The plan of works on this section can be made proceeding from inquiries of points A, B.

For work probably it is required:

1. Computer system with a set of corresponding programs. Working out of programs.
2. Modern equipment for carrying out of biochemical, physical and chemical works.
3. Equipment by definition of the maintenance (concentration) of chemical elements within $10 \cdot 10^{-15}$ weight of %.
4. System of the neutronno-activation analysis for the same purposes.
5. System of weights of spectrometry with a complex of blocks.
6. All set of equipment (and techniques) for definition of isotopes of chemical elements ($Z = 1-94$).
7. Isotopes of chemical elements (including radioactive).
8. Equipment for radiometry (α - β - γ).
9. Generators of fields, streams of elementary particles and etc.
10. A vivarium with a set of animals (a mouse, a rat, a dog ...).
11. Requirements on section In should be registered separate point.

The experts having fundamental knowledge on elementary particles, fields can participate in work, on a structure of atom and a kernel of atom, geochemistry (astrochemistry), biology (astrobiology)

Possible exit:

1. Occurrence of new scientific directions and creation of new scientific disciplines – Science about elements (elementology), atomic (in development molecular) biology, biology of fields, biological static quantum chemistry (physics) and etc. doctrine Transfer about self-organizing of a matter and an origin live on physical, quantum level.

2. The specified scheme of the Main sequence of differentiation of primary space substance and occurrence live, and the collateral schemes of differentiation which are not leading to its occurrence.

3. The well-founded scientific approach to possibility of existence of extraterrestrial forms of life on the basis of $Z = 6$, or $Z = x$, or $Z = y$, or elementary particles, fields and etc.

4. Classification of information matrix units of a matter and creation of the theory of multimatrixes of the Universe.

5. The Plan-scheme (taking into account subitem 1-4) influences by live substance on objects, including on objects of Space for the purpose of their transformation, and the further residing.

Approbation of separate blocks of the plan-scheme on real objects in Space together with the scientific research institute, engaged in Space studying.

6. Reception of monoisotope materials and biomolecules ...

7. Creation nuclear, quantum computers and program materials for the purpose of control and influence on X-sphere on a planet and in space.

The plan is calculated for 8-10 years, with specification each 1-2 years.

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® L.A. Sokov. On one of open quantum wave fractals: «Law of change of size of an absorption of chemical elements from a gastroenteric path of animal organisms» the International academy of authors of discoveries and inventions, the International association of authors of discoveries give out the diploma on a discovery, the diploma № 191, from April, 3rd, 2002, the Russian Academy of Natural Sciences, Moscow, the Russian Federation.