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*Не чины и звания, ни возраст и профессия авторов,
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ДЕВИЗ ЖУРНАЛА:

«Новое искание Истин – только это и есть Наука»

Д.И. Менделеев

EXTENDING EARTH OR AN ADDITION TO THE EXISTING COSMOGONIC HYPOTHESIS

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Ways of a correcting of an existing cosmogonic hypothesis as bases of acceptance of model of the extending Earth are shown.

The fact of expansion (growth) of an oceanic bottom became a deciding {solving} push to the development of a hypothesis of tectonics of plates. The formula of the last can be presented thus: tectonics of plates = the fact of expansion of an oceanic bottom + the fact of moving of continents + hypothesis of convection in mantle + hypothesis subduction. Last two positions are solving in the definition of the reality of the hypothesis of tectonics of plates, however remain till now not only not proved, but also sharply debatable.

There is an extensive literature on this problem which review within the framework of given clause {article} we cannot give, however shall make one remark having the important methodological value. At substantiation of an opportunity of convektion in a mantle (understanding it as the rise through all cloak of the certain volume (a column, a bubble, a lens) loosened mantle material that is as moving of the big wtheeight of the continuous environment), supporters of tectonics of plates have carried out the replacement the law of Hook (describing the deformation firm, is more exact than a crystal body) on the law of Newton (describing current of viscous liquid), that is such characteristics as displacement and the module of rigidity (μ) are replaced, accordingly, for the speed and on factor of dynamic viscosity ($\acute{\eta}$). Under the law of Hook for that the natural phenomenon - in this case plastic deformation of a crystal body - took place, it is necessary to achieve the certain (critical) combination of loading and physical properties of a body (the module of rigidity). That is, there is a certain restriction on practicability of the process, existence of the phenomenon. Under the law of Newton, such restriction is not present, and transition to the description of process with its help means, that the natural phenomenon - current in crystal mantle - exists. At the certain selection of factor of viscosity (in an in-

terval 10^{18}-10^{33} П) and at the account of extent of time intervals - billions and hundreds millions years - illusion of the reality of current in crystal substance is created.

The illusion is created by an opportunity of the mathematical description of process. But the condition of realization of convection in liquid, gas is the opportunity of free moving of their atoms independent from each other, molecules. In crystal substance such conditions are not present. If moving of substance in mantle occurs by moving atoms, molecules we should describe this phenomenon under laws of diffusion. If moving of substance occurs by moving the certain volumes of crystal substance we owe to describe the processes occuring on border of moving and motionless volumes of crystal substance, that is we come back in this case to law of Hook. The third variant - the moving of mix of crystals and melt - also is absent. Separate authors also used such approach (V.N.Zharkov, 1983), but came in this case to negative results. For example, even geological time is not enough for diffusion moving of significant volumes of substance to mantles.

The convektion in liquid (gas) and plastic deformation of crystal body are completely different natural phenomena (processes) and it is impossible to substitute one another, that supporters of tectonics of plates have made. That there is an opportunity to describe any process mathematically, does not mean yet, that the phenomenon takes place in the nature. In mantle if it is combined by crystal substance, the moving of the last can be carried out by processes of diffusion, phase transitions, plastic deformation, but not in any way of convection. This position puts under doubt existence in mantle of process of convection, that is the hypothesis of tectonics of plates translates in the category unreal.

There is a second hypothesis which follows from the fact of seafloor spreading, attributes of expansion on continents and the fact of moving of continents from each other - the hypothesis of the extending Earth. It has arisen at the end of 19-th century, played geology the supporting role, but, despite of it, developed regularly, though also separate researchers, in parallel with others geotectonic hypotheses. The detailed review of works in which the hypothesis of the extending Earth developed, is given by S.W.Carey [11]. He marks, that the hypothesis of expansion of the Earth as consequence of increase in its weight for the first time was proved by I.O.Jarkovsky in 1899 [29], assuming the transition from weightless substance (ether) to real matter. The Absorption of ether results in growth of weight of the Earth. Since his works, the increase in radius, volume of the Earth was considered as consequence of

increase in its weight already by many researchers. Such point of view and the geological argument in its benefit is resulted in many works [2, 4, 6, 10, 11, 16, 19, 20]. In S.W.Carey's [11], V.F.Blinov's [4], K.E.Veselov's, T.V.Dolitskaj's [6] enough the geological facts works results for the benefit of growth of the seafloor spreading as the result of growth of volume, area, radius of the planet, in turn being by consequence of increase of its weight.

The hypotheses in which the various reasons and attributes of increase in radius of the Earth are considered at constancy of its weight, are stated in O.Hilgenberg's (1933), P.Dirac's (1938), P.Jordan's (1955), L.Edyed's (1957), B.Heezen's (1959), I.I.Adabashev's (1971), V.P.Kolchanov's (1971), M.Gorai's (1979), I.A.Majdanovich's [13], S.M.Esipovich's [9] works.

Not resulting their argument, we shall note, that, first, the idea of the ext ending Earth developed, since O.I.Jarkovskij's work is practically continuous, second, in the named works it is argued enough (as well as criticism of tectonics of plates) with the facts from different areas of science, first of all geology, and seafloor spreading (including attributes of expansion of planets of terrestrial group [15, 22]) is fundamental argument in its benefit. Despite of it, the hypothesis of the extending Earth is considered by many researchers as physically impossible in connection with that the weight of the Earth is accepted by constant. Such approach is submitted in details, for example, in O.G.Sorohtin's work [21]. It allows us to characterize the developed situation thus: Within the framework of an existing cosmogonic hypothesis large-scale increase in weight of the Earth and consequently - its volume, radius and the area of a surface, is impossible, at least such scale what is observed, since mezozoic.

In basis of the existing cosmogonic hypothesis the cosmological hypothesis of the hot universe (or the hypothesis of "the Big Bang, Big explosion") [17] lays accepted now. But modern astrophysics and astronomy have already revealed enormous quantity of the facts, the phenomena which do not find the explanation within the framework of the hypothesis of "the Big Bang". One of them, putting in logic impasse this hypothesis - the fact of expansion of the universe, expansion with acceleration. On this hypothesis, the universe after the moment of "explosion" passes line of evolutionary stages. Already after the first of them when there is a transition from the universe filled with ionic plasma (protons, electrons, nucleus Not) and radiation (photons), to the universe filled with neutral atoms and radiation, interaction between substance and ra-

diation stops [17]. Since this period, the universe is filled with two gases which move independently from each other even when are in one point of space. If these components of space of the universe do not cooperate with each other there is a question, what forces the matter after 6 million years after "explosion" (time of existence of the first period of evolution of the universe [17], in other sources even 0,3-1,0 million years) not simply to scatter but to scatter with acceleration. And to be accelerated already, at least, 10 billion years. Don't the laws of Newton, the laws of mechanics already work? The given position is obvious up to such degree, that it is even strange, that physics trust in the hypothesis of " the Big Bang".

The assumption does not save the situation also, that forces of gravitational pushing away operate till now and they are the reason of that the at the moment universe continues to extend with acceleration [5]. It is necessary to be determined, what gravitational forces operate in our world: pushing away or an attraction. In fact at construction of models of education of congestions of galaxies, galaxies, stars, planets the representation about action of gravitational forces of attraction is used. However the model in which early stars and galaxies were formed under influence of forces of the gravitational attraction of neutral gas which scatters with acceleration under action of forces of gravitational pushing away which continue to operate at present, is logically inconsistent.

Many of the authors named above offered hypotheses (reason) of growth of weight of the planet. Not concerning the physical aspekt of the given hypotheses, we shall specify their common fault - "origin" of weight occurs in any point of space or body. But the universe as a whole, congestions of galaxies, galaxies, star (solar) systems, planetary systems are definitely organized, naturally structured. Hence, in the hypothesis the mechanism of structurization should be incorporated, that is "origin" of weight should occur only in the certain elements of space. Moreover, the weight should cause of structurization of space, that is occurrence of these elements. Physics (K.P.Stanjukovich [5], S.W. Hawking etc.) call them singular points. Here we shall add, that if under singularity to understand the break of function, in this case the break of any properties of space possessing properties of singularity can be both lines (curves), and planes (surface).

Besides the universe evolves, hence, in the hypothesis the mechanism of evolution should be incorporated. The phenomenon should contain the mechanism of evolution and generate this mechanism. So, if we speak about occurrence of new weight, the weight should become the

reason of occurrence of new weight. But the opposite process should exist which starts to work, since any limiting weight, - the process of "destruction" of weight (its translation in contrast). Then this process becomes infinite. Thus, on the one hand for that the universe has been structured, it is necessary, that origin of weight occured on the certain elements of space. On the other hand, "origin" of weight can occur on the elements of space possessing properties singularity. The first applicants for the role of such points in the universe can be the centers of heavenly bodies (stars, planets), linear and superficial representatives - orbits and spheres on which there are these bodies. The organizing elementary cell of the universe (fig. 1) appears from here.
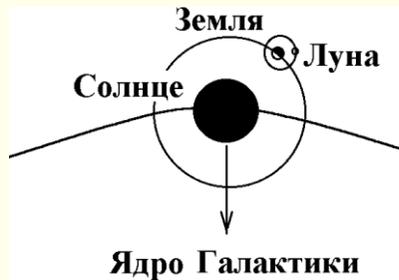

Fig. 1. *An elementary cell of the universe (Ядро Галактики – nucleus of the galaxy; Солнце – the Sun; Земля – the Earth; Луна – the Moon).*

Using modern representations about space and matters, we shall try to make the deductive model of circulation substances in the universe as source of growth of weight of stars and planets. As it is known, the universe will consist of the congestions containing tens, hundred, thousand galaxies. The sizes of congestions reach 10 million light years. They disperse more or less in regular intervals in space in the size up to 300 million light years. The universe in such scales is homogeneous. The supervision of red displacement in spectra of congestions has shown, that both congestions, and galaxies leave from each other. The rate of increase in distances between them изотропен, that is it is identical to all directions in space. The universe isotropic extends, and extends with acceleration.

As it is known, the uniformity and isotropic the universe, and also the phenomenon of disperse of galaxies have been predicted by A.A.Friedmann [25, 26] on the basis of the theory of gravitation or the general theory of the relativity of A.Einstein. The he also has shown, that there can be spaces both with positive, and with negative curvature.

But if curvature of our space varies, there are no bases to deny, that there can be points, lines, planes with zero curvature. They also are, in our opinion, the singular elements of our space. A conclusion that the gravitational attraction in the centers of massive heavenly bodies (planets, stars) is equal to zero, is received on the basis of calculations under the classical theory of Newton. In light of positions stated here the centers of these bodies are points with zero curvature, that is singular points.

In view of A.Einstein's [28] works, B.Riemann's, W.K.Clifford's, H.Minkovski's, H.A.Lorentz's representations, the ideas about interrelation of matter and properties of the curved space can be reduced in the simplified kind to the following positions. The gravitation – is property of the curved space, that is gravitational effects are displays of the curved space. The curvature of space can vary from point to point. The distribution of a matter determines the configuration of space, bends it. The bodies, moving forward, change the sizes, are reduced in length on the direction of movement. The weight of a body is connected to its full energy. The weight and energy in physical sense – is the same thing. The weight of body grows in direct dependence on growth of speed. The body moving with speed of light should have indefinitely big weight, from here the limit of speed of light is not achievable.

However the unattainability of speed of light for body with any weight does not explain, why there is the limit of speed of light for the photon, why it cannot exceed speed of light. In the answer to this question it is made, in our opinion, the help of the decision of the problem considered{examined} here. From the above-stated positions it follows, that achievement of speed of light determines occurrence not only indefinitely big weight, but also zero length. However the last means, that the body turns to the geometrical plane (surface). But whether the geometrical plane can have weight? From hence here, and from the higher listed positions of Einstein's theories of gravitation, we can make the assumption, that if the photon will get bigger speed, than the speed of light, it "will disappear" from our world – the spaces with positive curvature, and will leave in space with negative curvature. We notice only those photons which have speed of light. The photon with the speed, the greater than speed of light, disappears only from our world, but does not turn to "anything". Laws of preservation and energy, and symmetry are carried out.

Similarly, if the body to disperse till speed of light, it will get zero length, or on another it can mean, that its curvature becomes zero. At excess of speed of light the body leaves in space with negative curva-

ture, gets negative curvature, negative length, negative weight. Laws of preservation and energy, and weights are carried out.

This position gives in to skilled check for what in known experiments on acceleration of electrons it is necessary to supervise their balance (quantity of electrons in the beginning and the end of dispersal).

Our universe extends with acceleration, that is with the tendency which allows to assume, that on its any site the substance gets speed of light, and with excess of it leaves in space with negative curvature. Also it is possible to explain by this the limitation of our universe (Metagalaxy) - the border is determined by the achievement by substance of speed of light and its transition in space with negative curvature. That on border of our universe the substance gets speed of light, is supposed by K.P.Stanjukovich [5].

As well the other opportunity of transition of substance from space with positive curvature in space with negative curvature exists. This is existence of " black holes ". The gravitational attraction of them is so great, that light cannot leave them, the photon leaves in space with negative curvature. But it means, as the substance falling on them in their powerful gravitational field can get and exceed speed of light, and, hence, pass in space with negative curvature.

The presence of particles with imaginary weight (tachyons) and moving with a speed, the greater than speed of light, was assumed by Ja.P.Terletsky [23]. Having got negative curvature, negative weight, the substance is not so subject to a gravitational attraction of our matter, does not cooperate with it and can "freely move in our space, will not get yet in so-called singular elements of our space - points, lines, surfaces with zero curvature. If to admit, that the substance with negative curvature in them can pass in our substance, then the mechanism circulation of substances, a source of "birth" of substance in our space, the source of substance for growth of weight of heavenly bodies becomes obvious.

If this process occurs in the center of a planet, a star, the weight of them grows. In process of growth of weight of body the curvature of space around of it varies. The last moment opens the basic opportunity for the occurrence in space around of body of sites with zero curvature. But, as in our world of the phenomenon, processes are "quantumal", it is possible to admit also, that "quantum" of weight forms "quantum" of curvature of space, that is there are the critical weights determining the occurrence of surfaces (spheres) with zero curvature around of them. From here the distances between planets and stars, between satellites and planets will be natural (rule of Titsius-Bode - checked consequence of

model if these distances to calculate on the basis of quantum units of length and weight and in view of weight of the "central" body).

As the substance can "be born" not only in the center of a planet, a star (syngular to a point), but also in the certain orbit around of heavenly body (singular to sphere), in process of growth of weight of such body, around of it there is all new and new singular spheres on which there is an opportunity of origin of substance (satellites, planets). It – is model of development of an elementary cell of the universe (fig. 1) and it explains uniformity of distribution of weight in the universe. It becomes also clear, that the most removed planets, satellites are more massive (medium-statistics it is carried out for solar system) and have the greater age.

Our universe contains 10^{78} [8] (on other data [5], - 10^{80}) nucleons. This quantity of substance is answered with the certain total curvature of space and, accordingly, the sizes of the universe (10^{28} sm). Each appeared new nucleon bends around of itself space. If to admit, that our world is arranged so, that there is a certain limiting maximal curvature of space, each new nucleon will simultaneously "increase" both total curvature, and the sizes of the universe. According to hypothesis of P.A.M. Dirac [8], the rates of escalating of weight of substance are proportional to square of age of the universe (expressed in nuclear units), that is to square of time (t^2). From here follows, that at origin of new weight in the center of a star or a planet, the space around of such body will, extend figuratively speaking, and it will be expressed that singular spheres (orbit) as reperic elements of curvature of space, will leave from the central body, and with the rate proportional t^2 (to square of age of body). If to pay attention to the dimension of the gravitational constant, it is possible even to specify with what acceleration - $6,67 \cdot 10^{-8}$см^3 each gramme of new substance a second in square. The growth of the "central" weights determines (proportionally gravitational constant) the accelerated expansion of the universe, disperse of galaxies, removal of planets from the central star, satellites from a planet. It is the mechanism of dynamics of an elementary cell of the universe (fig. 1) and the universe as a whole. It explains isotropic of the accelerated expansion of the universe. But from here also follows, that for each hierarchical level of the organization of substance of the universe the Hubble's constant will be "its" and on it it is possible to calculate weight of the "central" body (checked consequence of model). That the Moon now leaves from the Earth with speed of several centimeters in one year – is an established fact.

Thus, if in the space the "new" substance is formed, it arises in the center of planets, stars, in their orbits and spheres on which there are orbits.

The first applicants for such substance are hydrogen and the space dust. Apparently, in process of growth of weight of the planet the speed of "origin" of hydrogen increases, and the planet finally becomes hydrogen (more distant, more massive, more the senior planets on age), and in the long term - a star. The tendencies of evolution of the Jove, Saturn specify that in the future they become young stars (R.B.Salimzibarov, 1975; A.A.Suchkov, 1976). In view of stated above, the Earth also will go through the stage of a hydrogen planet.

V.G.Fesenkov [24] ascertained, that the majority of observable meteors is caused by the particles moving on orbits around of the Sun. Among them the fineest make the numerical majority.

T.Regge [18], having considered some kinds of measurements of gravitational fields, has shown, that any of them does not give satisfactory results if the linear sizes of area in which the field is measured, are less $L = (G\hbar/c^3)^{1/2} \approx 4 \times 10^{-33}$ sm (G - a gravitational constant, $\hbar$ - Planck's constant, c - speed of light). Subsequently M.A.Markov [14], considering possible connections of the gravitational field and elementary particles, specified, that the universal length $l_o = (G\hbar/c^3)^{1/2}$ contains the Planck's constant and, hence, in any measure is connected to the future quantum theory of the gravitational field. After J.A.Wheeler and T.Regge he has noted, that this size is connected to quantum fluctuations of the metrics, that is the space. These from M.A.Markov's positions we can draw the conclusion, that the given length can be considered as quantum of the curved space and, accordingly, parameters of a particle (the sizes, the weight, full energy), passing from space with negative curvature in space with positive curvature in singular elements of space (with zero curvature) will correspond to this quantum.

M.A.Markov also marks, that the quantum of the wave with the length l_o has energy $E = (\hbar c/G)^{1/2} \cdot c^2$ and, hence, weight $m_o = (\hbar c/G)^{1/2} = 10^{-5}$ g. Prospective particles with such weights M.A.Markov has named "maximons" ("plankeons" on K.P.Stanjukovich's [5], at other authors - "heavy graviton"). In A.K.Lavruhina's, R.A.Mendybaev's [12] article in which the data on the space dust are systematized, the weight of its particles equal of 8,4-440 mkg or, for convenience of comparison - 0,84-44,0□10⁻⁵ g is resulted. If to compare weight "maximons" to weight of particles of the space dust it would be desirable to repeat known the

phrase: the concurrence is too good to be casual. In our opinion, the particles of the space dust also are "maximons" of M.A.Markov's.

Let's make also one more assumption, that at formation of hydrogen, the space dust (maximons) in singular elements of space the certain energy will be allocated also, and it will correspond to so-called background, "relic" radiation (3°К). This is checked consequence of model.

In view of considered model the following is extremely important. M.A.Markov emphasizes, that the gravitational interaction of two such particles with weight m_o in $\hbar c/\varepsilon^2$ times is stronger than their kulon interaction (ε - electric charge $\leq$ e), and in this case particles with electric charges of one sign can form the connected systems under action of only one gravitational forces. It becomes clear, what even the silicate particles of the space dust have reasons for accretion. But it is clear also, that the magnetic balls possess more effective mechanism of accretion, accordingly, they outstrip the silicate particles and on time of the beginning, and on speed of accretion (P.G.Harris, D.C.Tozer, 1967, by works [7, 27]).

The analysis of existing hypotheses of accretion of the space dust has led G.V.Vojtkevich [7], V.S.Shkodzinskij [27] to a conclusion that the model of heterogeneous accretion of the space dust which assumes the fast accretion of the magnetized particles of iron after decrease of their temperature below temperatures of Curie (T_c) is most comprehensible. In frameworks of offered model the heterogeneous accretion becomes inevitable in process of the increase of concentration of the space dust in an orbit (an singular element of space), with corresponding reduction of the distance between its particles. Thus there are no obstacles for formation of the several centers of accretion, as well as there is no the inevitability of their simultaneous origin.

In process of the growth of earlier and, accordingly, larger center of accretion (Earth), since the certain moment there is a singular sphere, that is there is an opportunity (the reason, the mechanism) of capture of the second center accretion - the satellite (Moon). From here it follows, that at planets two types of satellites are possible: 1) generated near-simultaneously - massive; and 2) formed with an essential time interval - having appreciablly smaller weight. Thus, two variants of an elementary cell of the universe (fig. 1) are formed. And process of the subsequent evolution of system of the first type (a planet – is the massive satellite) will lead to formation of a double star, and in a consequence - a double galaxy, a double radiogalaxy, etc.

In summary the author expresses hope, that, despite of descriptive character of the representation of model of "origin" of new substance in the universe, the growth of weight of planets, stars, the experts will become interested in it. Existing cosmologikal and cosmogonic hypotheses brake the development not only of geology, but also the other natural sciences. The acceptance of the hypothesis of the extending Earth will allow to accept and geotectonic model of "frinometakinesis" [1], that opens new ways of the decision of many geological, ecological, biological problems [3]. For example, from the model " frinometakinesis " follows, that only at presence of the massive satellite similar to the Moon, on a the planet similar to the Earth, formation of hydrosphere, that is one of conditions of origin of life, is possible. Hence, it is necessary to search an extraterrestrial life in the field of double stars, double galaxies.

As it was marked above, in the long-term future the Earth will go through the stage of a hydrogen planet. But when there will come boundary ecological conditions (the warming up of a planet, the destruction of ozone cloud by hydrogen, etc.) [3], it is important to mankind to know today.

The stated hypothesis is verified, the author has specified above its four consequences which allow to make it.

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SUMMARY. *The deductive cosmological-cosmogonic model of substances turnover in the Universe with the use of the A.Einstain's gravitation theory conception based on the possibility of light speed excess assumption was constructed. At such overspeed a substance gets the negative length that means the transition through singular (having a zero curvature) elements of our space like points (centers of planets and stars), lines (orbits), spheres (on which orbits are located) into the space having the negative curvature. Through the singular elements the substance can return in our space getting the positive lenth, curvature, mass. The suggested model describes the mechanism of substance turnover in the Universe, of growth of planets and stars mass, and, as consequence, their expansion.*