

After all, in reality nature cannot create itself!

/Once again about the true mechanisms of evolution/

PREAMBLE

It's no secret that today many of us - conscious representatives of a terrestrial civilization - as if absorbed by mute expectation, are standing at the crossroads, with alarm peering into the future. At that, someone of current philosophers explains it by general anthropocentric directory of specie progress, meanwhile others even hint on relentless approach of a certain fatal point of singularity. In a word, there is about to soon come (literally - right already on the nose) a grand evolutionary leap connected with surplus accumulation of informatively significant changes both in the "humanized" nature and in the society itself. However, if you look, similar turning-points in the geological annals of our planet were more than enough. And still from the category of "the most, the very" it is accepted to mark out usually the following milestones:

- 1) origin (or safe "inculcation" from space) of a prime planetary life;*
- 2) the subsequent division of tiny living lumps into autotrophs and heterotrophs;*
- 3) the occurrence of multi-cellularity (with that, for both abovementioned taxa it, obviously, took place at different times);*
- 4) well, and possible (though it is certainly more out of a collective feeling of solidarity) - an arrival of Homo sapiens on historical proscenium.*

Whereas among less significant moments could be named the formation of presumably some new creeping or, for example, flying specie. By the way, all this will be comprehensively reviewed in given article, which is devoted to the mootest and pivotal issues of contemporary biology. And in the meantime, while almost everybody in a row staff Darwinists are feverishly fussing in anticipation of their upcoming anniversaries, have advertised by them with enviable scope and chic, I would like to recall here for readers 4 analogical round dates imprinted in our memory yet last year. Though which have been celebrated already in the opposite, however, idea camp, i.e. among firm and consistent critics of Darwinism. So, this is primarily about very recent bicentennial of the prominent domestic thinker N.Y. Danilevsky, the centenary of the publication of two truly significant works: «Nomogenesis, or pattern-based evolution» /by L.S. Berg/ and «The law of homologous series in variation» /by N.I. Vavilov/; as well as the 50th anniversary of the death of their most famous disciple and spiritual successor A.A. Lubischev. And it's in this connection that we will try today not only to figure out the rich and multifaceted creative baggage of our recognized luminaries, but also to analyze some modern trends in given area.

1. Informativeness is present in all living things and, of course, it's associated with Space!

In 1922, a book of the outstanding Soviet ichthyologist and geographer, Stalin Prize laureate, acad. Lev Semenovich Berg "Nomogenesis, or evolution based on patterns" was published in Petrograd in a circulation of 2000 copies. There he first acquainted the world scientific community with such (see below) a rather bold original hypothesis.

As you know, Darwinism begins its evidential chain of "variability-inheritance-selection" from variability. But what is variability? This, on Darwinists' imagining, is a completely random number of changes in the structure of the organism, i.e. mutations, not caused by either the outward cosmic intelligence or the internal life force. They can spread on all sides, like Sun beams, and there is no framework for their range. If the mutations are harmful, they disappear in the selection process, and if are useful, then are preserved. Well, similar statement of the problem really looks quite reasonable, clear and convincing: changes can be any, and the selection itself will take care of preserving those will turn out expedient. However A.I.Vvedensky in his tutorial "Logic" unambiguously had noted that simplicity is a plus only under the rest equal conditions, and otherwise "simplicity is a natural prejudice". Whereas in this case, there are no such conditions at all.

In the comprehensive 5-volumes monograph "Flora of Manchuria" (by botanist V.L. Komarov) very valuable for us information is given, according to which a new species arises as a result of certain trait change almost in each individual. While if it appears only in a few accidental persons, would be immediately eliminated by crossing. Similar Komarov's data is quite eloquent, but by no means exceptional. After all, even a novice dentist is well aware (and this was emphasized yet by our glorious last-year hero of the day N. Y. Danilevsky) that molars' complication was distinguished by a clear pattern, i.e. without chaotic trials and wandering as required by Darwinism, and most importantly - without a variety of intermediate options. Lamarckian exercising/non-exercising (which Darwin still added into his theory a little later) in this case is also absolutely excluded, since teeth are formed under the gums, and hence aren't, naturally, subjected to any "exercises".

And, by the way, that is a big mystery not only for biologists, but for paleontologists too. In particular, if all was determined only by external circumstances, we'd have one of two: either today there would no longer be (due to the emergence of some new conditions) those simplest organisms which reigned a billion years ago, or – because such organisms successfully continue to live now – the globe should be completely covered with similar protozoa. But you, after all, see perfectly well that neither former nor latter took place and never will!

So it isn't accidental Berg said that the struggle for existence explains de-facto nothing: as there are not the most expedient attributes survive at Darwinists, but the most durable; i.e. from their standpoint, the winners in the housing question would become the primitive people's caves dug into the rocks. And besides, if for example, at the age of 10 years about a

million beech trees are able to grow on an area of one hectare, then in 100 years there will leave total no more than 500, what should clearly lead to both a decrease in the number of seeds' variation and the very possibilities of optimal choice among them. Yeah: as we can see, the expedient here is just the least likely - and therefore life from a scientific point of view is an extremely rare phenomenon that is almost not realizable in practice. But it nevertheless exists - and exists even out spite of the second law of thermodynamics!.. And thus, namely progressive nomogenetic theory, in contrast to the notorious mossy Darwinism, still tries to find an explanation for this paradox, openly acknowledging the presence at live creatures of some internal informativeness being in the direct bilateral link with the analogous entity of a higher level – the cosmic!

In addition, of undoubted interest is the modern interpretation of nomogenesis from neo-Pythagorean standpoint, i.e. as a mediated homomorphic imaging self-development of outwardly hidden numerical series and functions. However, here one can talk, rather, about perfecting a subtly-lepton hull but not a gross physical substrate. After all, as molecular biologists have recently ascertained, the structural composition of nucleotides and chromosomes almost has no an impact on the degree of complexity of individual tissues or an organism on the whole. It follows that both the differentiation in ontogeny and phylogenetic progress are influenced by absolutely other factors. And just in their role here are able to act permanently improving proteins-computers or - which is much more plausible - some psychic (if we apply theosophical terminology to this case) matter. By the way, comparing N.P. Blavatsky's conception of the root races with modern systematisists' evolutionary tree, one willy-nilly comes to the inference that the former quite could serve as a kind of well-adapted soil for the normal "growth" of the latter. That is, at first for a pretty long time the primary bricks of being (in the form of stable atoms and polymer carbonaceous molecules) took shape painstakingly from the ether, the astral, the mental body as well as proton stroma, and then everything already continued according to the familiar school scenario.

But, incidentally, only a rough simplified picture of terrestrial evolution was still drawn above. Because, by and large, these processes went on almost simultaneously with each other; however at the preparatory stage, the laws of theosophy (or, if you like, astrophysics) "ruled" in it, while hereinafter they have already become predominantly of biological character. In this regard, the emergence of a habitual phenomenon of life can be somehow discussed, perhaps, from the mark of a successful for all of us synthesis of the mental sheath (responsible, as known, for ancestral memory) with the immanent perceptivity of organic rings.

2. Though both Lamarck and Berg are friends to me but Truth, in point of fact. is higher them!

Unfortunately, to the obvious disadvantages of the said Berg's theory, one could, alack, relate that with a strictly obligate approach (i.e., without allowing even the slightest possibility of extramutational expediency), it inevitably leads to the practical ascertaining

man as a bauble of nature. What, in turn, is fraught with a deliberately negative answer to the question of the sense of our earthly being. Let's remind: under nomogenesis it means *qua definitio* such a clearly regulated evolutionary development, where we, according to own subjective desire, are no longer able to change anything. That is why the basis of phylogeny should undoubtedly be the Lamarckian principle. And though similar inference looks quite banal and does not need particular supporting, we still shall put in here the public opinion on this account of one of the most authoritative domestic geneticists of our time, the laureate of the USSR State Prize V.A. Kordyum:

"Today it's already completely obvious (with all even former non-recognition) the problem of inheritance of acquired traits is being solved. But I should like to notice that any acquisition of a new feature occurs purely by necessity. And we do not so much as ignore it - but just brush it aside, because don't believe in nature, and in all sorts of ostentation or "circus". I.e. this is when rats' tails were cut off, allegedly thereby proving that given attribute (in the kind of a shortened tail) is not inherited. Whereas in the biosphere, similar information passing occurs massively, ubiquitously and very effectively. Moreover, the inheritance of beneficial acquired properties (as well as their transient use) is not only an ordinary phenomenon, but also an environmentally reasonable!"

However even such a convincing and almost commonly recognized fact by no means prohibits individual subjects of the terrestrial biota from bringing to here a certain own "exclusive". By the by, in his previous published works, the author introduced as many as 4 new alternative levers of evolution into consideration: stepping, food, protein and mental (psycho-Lamarckian). At that the protein pathway was illustrated us on birds, the food one on bees, and the stepwise on several different taxa simultaneously. And, in particular, here, according to the logic of the narrative, I would like to briefly dwell on the last of them. So, the essence of the step-by-step principle is as follows: in order for there to be tho' a small qualitative leap (regardless of its site, type of tissue, etc.), it is necessary that at given place the number of cell divisions was at least one more compared to the preceding generation. If one come over concretely to interesting everybody kingdom of Metazoa, where the most relevant locus for us is, of course, the nervous tissue, here our main attention should be attracted namely to the stepwise evolution of the ectoderm (although in some degree the mesoderm too). And besides, spare division can occur, perhaps, only in the womb (since neurons usually do not demonstrate clear mitosis activity in the light) - which, in turn, could realize unless with a gradual "crumpling" of the prime stages of fetal development. By the way, the option connected with allegedly longer duration of the lunar decade itself, is hardly de-facto applicable here; moreover if it is possible to explain everything much simpler: say, from the standpoint of a multi-level perception of time. Thus, the stepwise kind of evolution is, at first glance, a potentially fitting vector not only for chordates, but for many other current or fossil species involved to the phenomenon of staged development (egg-larva-pupa) as well. At that, the same is, apparently, also regarding of plants sprouting from spores or seeds. And if Nature did not supported this

very easy for her and completely, by the by, acceptable algorithm – hence given circumstance owed be interpreted only as an additional strong argument against nomo- and orthogenesis.

While as for the food route of conveying evolutionarily useful properties, despite its seemed ordinariness and banality, it is no longer so relevant here, because of valuable proteins to a babe can be passed with mother's milk only immunoglobulins or some similar histamine-like enzymes.

But, apart of everything else, according to our firm conviction, all taxonomic transformations observed around must, by and large, be divided in two polar categories: saltational and Darwinian (i.e., simply put, inertial). And if the major macroevolutionary shifts would be, of course, logically attributed to the first group, then just purely adaptive intra- or interspecific changes (due, among the rest, to pedomorphosis, parasitism, neotenia, polyploidy, etc.) – obviously are to the second!

At that, the rightness and timeliness of this approach is important in didactic terms as well. After all, it is no secret that perhaps the most frequently asked question in different philosophical debates is like this: why and how could our wisest full-loving Allah in his humane project access a person to be eaten from the inside by some nasty worms?! And, meanwhile, the answer here is elementarily trite: since, it turns out, no one originally was going in reality to design those notorious parasites; moreover that, the forced simplification of the form or body by itself does not require any preliminary calculations at all! Even, say, from the point of view of classical molecular biology or genetics...

3. When conceptual unity is not an obstacle to manifold.

In the contrast to that, almost all progressive natural macro-shifts (such as: the transformation of scales into feathers, and fins into limbs; the creation of collective mind in ants and bees; radical rejection of the tail and preparation of the articulatory apparatus for meaningful speech among prehistoric apes) are more-less connected with external interference, an adequate justification of which the author devoted a separate book in his time. So in this abridged version of the article, it makes sense to dwell only on quite obvious circumstances of the everyday (albeit maybe unnoticeable) adaptive perfecting of organisms.

In the modern scientific community, the opinion has somehow been tacitly established that all of them occur allegedly due to selective DNA-methylation (if, of course, psycho-Lamarckian ideas are not considered here). Well, for most earthly species, this seems to be the case. But for cnidarians, comb jellies and some other invertebrates, the decisive factor in their successful survival might be the scattering of the radial nervous net able to retranslate to the gonads the information about the main events that were fixed (for passing the accumulated experience to offspring). Echinoderms tend to multiply through the regeneration of the full body from one segment, and this, in all likelihood, also leads to the preservation of the acquired parenting qualities for the descendants. As for the type of

arthropods, none of organisms has such a complex and refined control over the entire living system from the side of the primary chromosome. Let's recall, at least in this regard, extremely punctual and in their own way wise social insects!.. And hence, they personify a certain particular vector of evolutionary development, having managed at the same time to penetrate almost to the very its tops. Finally, it's known that episomal-plasmid recombination of genetic material among members of population or strain is an essential importance in prokaryotes' life. So it can be hypothesized that in higher plant taxa, similar adaptive-hereditary gene transfer will be fixed too. After all, just settling of qualitatively different chloro- & chromoplasts /on the one hand/ and mitochondrial symbiont-bacteria /on the other/ in separate cells, has obviously played decisive role in terms of processes of cardinal divergence between plants and animals. Akin to plasmid shuttling also the phenomenon of transductional integration of genomes, whose protagonists are retroviruses that live and reproduce thanks to peaceful coexistence with more developed organisms.

Well, and at the whole in spite of the phylogenetic development of complex multicellular organisms has, naturally, certain characteristics for each species, however it was carried out according to a single principle - on base of the given genome that earlier (i.e. at the previous, so to speak, "archaic" stages of its formation) had already lost the ability for self-improvement. Thus, let's clarify here a number of important cornerstone points on which the author relies, arguing own view about the course of organismic evolution.

- *Theoretically quite valid possibility of significant outwardly visible changes at the level of an individual – along with a strict karyotypic constancy in all its foreseeable ancestors.*
- *The dominant role of factors of internal self-development and selection as the main driving arms of progress.*
- *The complete autonomy of the above evolutionary postulates from blind mutational entropy, i.e. the conceptual independence of these two routes from each other.*

4. As a kind of closing lyrical sketch.

So, according to the scientific data available to us, it is the permanent improvement of species with an additional stimulation of this process from the outside that should be considered as the lead reason for polymorphism in a surrounding nature.

But is it still possible to contrast something to this (even, at least, with elements of a sane fancy)? Well, such versions are formally at our disposal either. Firstly that is the giving to proteins (allegedly, recasting by themselves own computer-management network) with an all-sufficient, almost mystical organizational content. What, in turn, should be directly linked with the adequate launch of the hardest mechanism of ontogenesis. Of course, it is not easy for any sober-minded scientist to believe in similar idea, but nevertheless...

The second alternative option looks much sounder in appearance. We are talking about the transfer of the role of an active evolutionary subject from an omni-recognized

organismic factor to the very Universe time, in relation to which life in this case will automatically take the position of a first-order attribute. As for the true (i.e. not intersected with space) time, then it obviously is here likened to a unified divine beginning. However it's no longer that blind scholastic approach to the interpretation of the concept of "God", which is so well known to many from the childhood but more or less, after all, scientifically grounded! By the way, let's add that the time of movement, what is just usual for us, associated with overcoming (and maybe even transformation) of space, refers to the truly one as a function does to an argument.

Unfortunately both of the above supposes are not enough relevant for current biology, at least because they, alas, can neither be confirmed or refuted. Therefore, I would like to emphasize at the end once again that namely the mental vector is the decisive lever arm of present highly impressive terrestrial progress. So offered in given section hypotheses can be here considered, perhaps, qua a sort of rhetoric curtsy aimed, in theory, at ensuring that a person is not identified with some primitive walking chromosome.

Final summary

Thus, according to the author, although self-developing matter relies on overall ordered nature of motion, it certainly would not be able to pass from some abstract formulas to concrete hylic realities without targeted support from outside. Moreover, at the human level, life-asserting creation role of this highest organizing principle is most clearly manifested in three evolutionarily significant hypostases: sacred (the spirit), informative (by way of the subtle psycho-Lamarckian entity that accumulates the most valuable worldly experience) and structural-framework (due to what different material sheathes get the opportunity to unite within one body).

But, in addition, all the taxonomic transformations observed today in nature should obviously be divided into two polar categories: macro- and microevolutionary (or Darwinian). And if any qualitative mega-jumps would be quite logical, of course, to rank here in the first group, then all kinds of adaptive changes (due, among other things, to paedomorphosis, parasitism, neoteny, polyploidy, etc.) - just to the second.

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