

However, it is scarcely to do here without outside intermediation!..

/Some dark spots & the tough paradoxes of evolution - with unbiased gaze of a philosopher/.

Abstract

This philosophical work proposes a new effective algorithm for global evolutionary shifts occurring in live nature. In particular, the original author's theory presented here is founded, by and large, on following three cornerstone statements.

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

But, in addition, all the taxonomic transformations observed today in nature perhaps should be divided into 2 polar categories: macro- and microevolutionary (or Darwinian). And if the unigual qualitative mega-leaps here would be quite sensibly to rank, of course, in the first group, then any adaptational changes (due, for example, to paedomorphosis, parasitism, neoteny, polyploidy, etc.) - just to the second.

Prelude

Throughout the human civilization exists on Earth, so long there are practically continuous disputes between supporters of creationism and evolutionism. In own arguments, the former usually emphasize the astonishingly-miraculous complexity of living systems what's thereby linked to very far-fetched chance of their self-emergence. At the same time, the latter brag of their totally impartial reasoning which doesn't require introduction of additional entities.

And indeed: if you figure it out, then observed now natural polymorphism does not come down to the simplest Darwinist constructions, but one way or another involves, as a provoking factor, the so-called "external interference". Nonetheless, the indisputable basic role of the evolutionary principle is all the same visible literally at every step. This is rather

intricate pedigree of the class Myxosporea (let's recollect corresponding SCANDAL hypothesis!), nanoarchaeotes, astromyxins and prions, as however current accommodative micro-improvements. Which, in turn, should be relate to: invasions of previously unseen mosquitoes and rats, the formation of new strains of bacteria resistant to various poisons, target introduction of valuable cultivars and breeds; just like the racial differences of people that, apparently, have been the best explained by J.-P. Lamarck who, alas, was then outcasted with almost the entire scientific world...

Well and now we are, in substance, proceeding to the presentation of the fundamentals of the author's theory of blanket Universal evolution.

I

All without exception material (physic & biological) systems can develop only in their free drift – thanks to gradual adaptability to environment as well as the noteworthy memorative factor that a priory inherent to the system of any level. In particular, translational motion of nitrogenous bases ended with mononucleotides' appearance; the perfection of three-step nucleotides - with the formation of long chains then twisted into more durable poly-functional spirals; finally, the latters, having united with their neighbors, led to the birth of the genome, and with it new essentially vital “the first bricks” of the animate nature either.

The improvement of RNA molecules took place mainly at the nucleoprotein level since they could hardly have existed for an extended historical period without so faithful and inseparable amino-acidic companions. In the old days single-stranded ribonucleoproteins propagated by replication using RNA-primers, and then realized themselves (or, to put it more professional, were expressed) by means of PcG proteins. In this way, the latter began to be responsible for both enzymatic reactions and long-term pre-chromosomal memory. While short-term memory, and not only nucleotic, but also of any systems, is due to underlying structures, that is, ultimately - to monads' perception.

Unfortunately, as is often the case, the subsequent integration of the primordial “chains of life” into a single proto-genome did by no means do them good. For after not far-sighted histones making and compactification of the principal hereditary material in the form of DNA, they have completely lost own freedom. So, continually striving for improvement, the nucleosomes involuntarily (as, in theory, any systems at all) ipso facto closed the path of their evolution, since with the advent of the cell, they began to serve

needs of updated team. And nevertheless, despite this, some so called small RNAs have still remained at the native command headquarters (i.e. nucleus). They, most probably, performed an extrasensory role there, and subsequently, being associated with the perception of light energy, began to influence also the living rhythms of the chromosomes. However, as it were, but centrioles cannot play a decisive role in the course of cell growth and division. It's clear that they get all working orders from the nucleus, where, accordingly, the natural pace-maker (or, if you like, a chronometer) of circadian vital activity locates. And besides, it certainly can't be connected, in any event, with the chromatids themselves (especially if we remember how indicative they resist being pulled along different poles).

Giving a short review of cellular evolution, for a start it should be noted: it's at this level that almost all so urgent for us functional stages & processes like mitosis, meiosis, conjugation, diploidy, polyploidy (well and number of analogues phenomena which inherent also to more perfect organisms) have once upon arisen. But still the most valuable attainment in this regard should, obviously be recognized the acquisition, as their future fail-safe helpers, of rickettsias (oddly enough, largely pathogenic now) by some nucleosomes and filamentous cyanobacteria - by others.

Over time, the cells began to unite into colonies which were forming in consequence of the primary maternal individual's division (with the next adhesion of daughter ones).

As for the phylogenetic development of complex multicellular organisms, it has, of course, certain characteristics for each species. However it has been carried out in accordance to a single principle - on the base of a given genome which had lost earlier (ie, at previous, figuratively speaking, already "archaic" stages of its growing) the ability for self-improvement.

But, in addition, it is necessary to take into account here that in the youthful earthly epoch (and even so at the absence of wonted saltations) some unusual levers of biological progress could be practiced among representatives of the plant-animal community.

What was said primarily touches on the author's concept of enforce-genesis, as well as stepping, peptide, neuro-diffuse and accelerative vector of evolution. The first of them implies, in particular, the obligatory (and this is its cardinal difference from the much softer Lamarckian wording) inheritance of all acquired parental properties by direct viable descendants. And as to the three other "side" options, they have already been discussed quite exhaustively by me before. But it would still be worthwhile, perhaps, to dwell in detail

on *the* accelerative one (and especially considering its increased relevance for *Homo sapiens* himself).

With that, I was led to suited theories and inferences in this scientific field, oddly enough, by observing the rouse current rate of qualitative improvement in electronic-computing devices. Particularly, I noticed that RAM-modules* in almost every new version of the computer are invading the adjacent functional blocks (processor, hard drive disk, motherboard and at times even data highway) more deeply and effectively.

That is, by comparing this fact with the peculiarities of the neuromorphology of progressing species, we nolens-volens come to the conclusion that similar phenomena must certainly take place in live nature. At Corvids, for example, the nidopallium increasingly penetrates into neighboring dorsal sections of the avian telencephalon, and in service dogs, the influence of the hippocampus is gradually extrapolated to the prefrontal region. Wherein from a physiological point of view, the whole secret of this is in the amazing plasticity of cerebral tissue, which in ontogenesis develops as demanded by concrete life circumstances.

However here, of course, cannot be done without the involvement of powerful regulative factors of epigenetics (at the level of stimulation “*hic et nunc*” of vitally significant chromosomal loci). Another thing is that the very mechanism of hereditary transmission of acquired structural qualities remains in question for now. Although, according to the author, it was namely thanks to the active participation in such processes of the truly omnipresent mental that wild *Canis lupus* was successfully tamed, and the New-Caledonian crows turned out to be so sagacious in the end!..

II

Almost all noteworthy natural macro-shifts (like the transformation of scales into feathers, and fins into limbs; the creation of congregate intelligence 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 outside interference, an adequate explanation of which the author devoted a whole book in his time. So in this abridged version of the article, it makes sense to dwell only on the quite obvious circumstances of the everyday (albeit maybe subtle) adaptive organismal perfectionings.

By the way, in the modern scientific world, the opinion got tacitly established that they all occur allegedly due to the phenomena of psycholamarckism or at least selected gene methylation. Well, all right: 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 may be the scattering of the radial nervous net able to retranslate to the gonads the information about the main events that were fixed (for carrying over the accumulated experience to offspring). Echinoderms tend to multiply through the regeneration of the whole 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, no other organism has such a complex & refined control by the entire living system from the side of the primary chromosome. Let's remember in this connection the extremely punctual and wise in own manner social insects!.. And hence, they personify a certain autonomous vector of evolutionary development, having managed at the same time to penetrate almost to its the very heights. Finally, it's known that plasmid-mediated transfer of genetic material from one cell to another is an essential importance to prokaryotes' & fungi's life. So it can be hypothesized that in higher plant taxa, similar adaptive-hereditary interspecific exchange will be fixed too. After all, as noted earlier, the settling of qualitatively different plastid and mitochondrial symbiont-bacteria in separate cells obviously has also played significant role in terms of processes of cardinal divergence between plants and animals. Akin to episomal transfer also the phenomenon of transductional integration of genomes, whose protagonists are retroviruses that live and reproduce based on peaceful coexistence with more developed organisms.

Mutations are known to be a blind factor of evolution, but also have a certain value in the nature around us. However, for some reason, quite possible breakdowns at the sub-nucleotide level are rarely mentioned in scientific literature (probably due to their frequent culling). Although by the way, it was such an early deep mutation that resulted in the rise of 2-deoxyribose (and as a consequence - the current DNA-strands).

Next ensuing chapters will be already, on the whole, devoted to analogous dynamic processes occurring on the scale of the Universe. Well and here I'd like to focus on the three cornerstone paragraphs of the author's approach, namely:

- *theoretically quite valid possibility of significant external changes at the level of an individual - with a clear structural constancy of the genomic apparatus in all his foreseeable ancestors;*
- *the dominant role of synergetic factor and ordinary Darwinian selection as the main driving forces of progress;*

- *the complete autonomy of both of above-mentioned postulates from blind mutational entropy, i.e. the conceptual independence of these routes from each other.*

III

Observing the evolution of nature allows us to word the law of the over-couple (synonyms: *intermittent, triadic*) similarity. Its practical value lies in that it zooms the horizons of knowledge, giving the opportunity to penetrate into such spheres which are not yet available for targeted laboratory researches. This is especially true of the initial stages of Universe's development, since the future with its close to perfection evolutionary macrostructures, in principle, is quite predictable with the help of already well-tried means too.

Briefly, the essence of the law of triadic similarity can be formulated as follows: each new system is built from the subunits of the previous one but according to a rough plan (or, if you like, the algorithm) tested at even earlier hierarchical levels. That is, if to be more exact - at the third, counting from itself backward (i.e. pre-fore-previous). Videlicet here it is only about the general ontogenetic scenario, since any attempt to behold the specific direct ancestor of a certain live creature among the retrospective bio-constructs will look mystical and even ridiculous. After all, then, say, we'd have to admit that the human genome originated from vanadium, and the cell - from some of its complex hydrogen compounds like hydride. While, in fact, the human cell has a proven genetic relationship only with the corresponding chromosomes and mitochondria, but the first have diploidly doubled as a result of the meeting and conjugation of two haploid cells (following the example of the formation of the diatomic molecules of simple substances); and the second were attached along the periphery like hydrogen ions in an ethylene molecule.

Comparing the above law with one or another theoretical postulates as well as phenomena amenable to direct observation, we have the opportunity to clarify and correct something in these common provisions (especially with regard to the structures and processes reigning in the microcosm inaccessible to naked eye). So, for instance, we can ascertain with full confidence that the proton and neutron differ little from each other in terms of the number and nature of their constituent subparticles. Although, as everyone knows, the lifetime of a neutron in a free state is incommensurably shorter than of its nuclear tribesman. Which means the whole problem here is in some additional entities that accelerate the existence of the first of them or, conversely, patronize the second. And these provoking factors are obviously brought in from the outside; but, true, given circumstances can also be caused by the instability of a certain combination of monads (i.e., in this

concrete case – quarks) or, less likely, by their different position in space. However if we will take into account the skill of wonderworkers to bypass the laws of gravity by sending volitional impulses, and sometimes even to break intranuclear connections then, perhaps, we should accept the version about lepton nature of such influence.

Further, it is distinctly seen that:

- a) each monad has at least three independent characteristics besides female-male polarity which determines the mutual pairwise attraction between ones;*
- b) they can all emit and absorb energy;*
- c) the interplay among monads in quark triplets is many orders of magnitude stronger than their adjacent bonds in the nucleus.*

Of particular interest is the fact that some analogs of isotopic hydrogen fold into rings, quite unambiguously passing over to purely producental practice; others (namely, linear), typical representatives of which are omnipotent viruses, lead a hyper-mobile, downright pirate lifestyle. There are several formal reasons for that: the first (ring) DNA are a composite link of the cellular structures, while the latter have a fairly wide autonomy in this regard. They also, as known, lack histone octamers and that could affect the spatial configuration and the main characteristics of viral acids too. But the true reason is generally one, and in this case it's still precisely hidden from us.

By the way, nematodes whose genomes are structured similarly to hydrogen molecules thrive in all parts of the world and in any environment but like those molecules themselves, alas, do not last forever either. While crystallomorphic viruses, thanks to their inherent a priori inner eternity, had an unlimited possibilities of constant elaboration and, therefore, represent (relative to the average standard of polynucleotides) the pinnacle of development among all biological systems that once existed. In any case a person will surely never attain so splendid adaptational skills: this is maybe within the power only for robots which, nonetheless, aren't live objects.

Although here some of the readers, a true, could argue that the molecules of silicic acid and natural rubber are also capable of unlimited growth and multiplying through regeneration. But they however, firstly, have an inactive lifestyle; secondly, are getting old; well and finally, for their reproduction something like a meteor shower is required, and similar conditions are known to be absent on the solid Earth.

In the course of their really epoch-making evolution, de-facto immortal viruses have improved due to the careful routine accumulation of separate mononucleotic links. But wherein their most ancient */so called archetypal/* gene segments and more than that - individual nucleotides, for certain, have staid the supervising, i.e. regulatory. After all, just such a development of events would, in our opinion, be optimal and logically consistent from the point of view of universal bio-progress.

IV

However, the mechanism of the emergence of vivacity from before inanimate seemingly first-bricks (both at the level of pre-mitotic replication and in mirror cloning) remains not yet entirely clear. The answer to this question should probably be sought either in old as the world vitalistic doctrine, or in giving a life-affirming principle to one of the field entities (sheaths). That is, instead of live and inert systems, it's worthwhile to talk about primary (i.e. created by nature itself) and secondary (like notorious robots, as well as all sorts of artificial neural or GRID-nets).

However, there is a whole range of united synergetic regularities which apply to both of these adjacent interconnected domains. For example, such: "The possibilities for adaptation, development and progress are more favorable for that calculating machine (or, respectively, organism, species, taxon) which is ahead of its contestants in the value of the fundamental indicator C_{Ash}". Wherein per definitionem it is measured by the ratio between operant (RAM) and read-only (BIOS \vee OpenBoot \vee BootROM) memory of a given robotic object. Whith that, its universal acceptability is largely ensured namely due to the physical dimensionlessness of the very magnitude C_{Ash}^{**}. Which in computing is presented as a quotient from the division of bits by bits, however when applied to living creatures - already in the form of a similar masses' fraction (or at last case - the correlation $\mathbf{N}_{op.} / \mathbf{n}_{bas.}$ where is considered the summary number of neurons involved in the memorative cycle). Although on the whole, thoroughly about this is told in the extended Russian-language variant of author's research.

But in addition, it is necessary to take into account that if in the world of electronics this coefficient (at least until the advent of cloud storage and the global internet) de facto only reflected the structural techno-hierarchy between mechanical, relay, vacuum-tube, semiconductor, microprocessor and quantum generations of calculative equipment, then in surrounding us nature its practical meaning is much

deeper and more functional! On the one hand, there is no particular doubt that in populational term, carriers of a greater CASH will be the undisputed leaders of own eco-niche, and consequently - obtain an evident advantage in the harsh competitive struggle “for a seat in the sun”. But on the other, even so numerous pluses are essentially in no way able to affect character and orientation of macroevolutionary jumps. After all, as has already been noted, they are determined primarily by external circumstances (where transcendental higher powers “rule the roost”).

So in this case, perhaps, it's clearly only one: the laws of the field play a much more important role here than those of ordinary (“gross”) matter!

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

But is it still possible to contrast something to this (even, at least, with elements of a sane fancy)? Well, formally such options are at our disposal. Firstly that is the giving to proteins (allegedly recasting independently own computer-management network) by a self-sufficient, almost mystical organizational content. Which, in turn, should be directly related to 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...

Another alternative assumption looks much sounder in appearance. We are talking about passing the role of an active evolutionary subject from an omnirecognized organismic factor to Universe time itself, in relation to which life in this case will automatically take the position of a first-order attribute. As for the true (ie. not intersected with space) time, then it obviously is here likened to a single divine beginning. By the way, let's add that time of motion associated with the overcoming of space and figuring in so called Lorentz boost

$$t' = \frac{t - \frac{v}{c^2} x}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$t = \frac{t' + \frac{v}{c^2} x'}{\sqrt{1 - \frac{v^2}{c^2}}}$$

refers to Universe's one as a function does to an argument.

Unfortunately both of the above ideas are not sufficiently relevant for current science, at least because they apparently can neither be confirmed nor refuted. From this point of view, the creationist position is more methodologically acceptable, since some day the higher evolutionary hierarchies can be, in theory, discovered tool-made or, for example, through supernal revelation.

Conclusion

Thus, according to the author, though self-developing matter relies on blanket ordered character of movement, it certainly would not be able to pass from bare abstractions to concrete hylic realities without targeted support from outside. Wherein at the human level, life-asserting role of this mighty organizing principle is most clearly manifested in three evolutionarily significant hypostases: sacred (the spirit), informative and structural-framework (thanks to what different subtle sheathes get the opportunity to unite within comprehensive body).

But, in addition, all the taxonomic transformations observed now in nature should necessarily be divided into 2 polar categories: macro- and microevolutionary. And if the rarest qualitative mega-leaps here would be quite sensibly perhaps to rank in the first group, then any adaptational changes (due, among other things, to paedomorphosis, parasitism, neoteny, polyploidy, etc.) - just to the latter.

Well, finally, in the course of conducted investigations, it was proven strictly (with the help of digits) that the evolution of reason is ahead of live beings' one. In view of the fact the CAsh of secondary systems, as however the accelerating growth index*** (what was already discussed thoroughly in ch. 1) quickens an order of magnitude more impetuously than of their direct creators!

And this - given coming Universal energy collapse (see a number of my previous publications on that subject!) - in turn, lead to the actual hegemony of robots!..

* RAM = "random access memory".

** By the way, this indicator literally means "Coefficient of Ashursky".

*** Which is formally expressed by the common numeral increase of brain areas occupied by working (operant) memory in any viable offspring - compared to his immediate genetic ancestors.