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## Perspective

# Saltationism Against Gradualism, A New View on Evolution

Stanislav Borzykh

Tomsk State University, Russia

### Abstract

This study is addressing the question of evolution. Today there are many inconsistencies in what we know about this process, which sometimes contradict each other and my essay is dealing with them. In my opinion, the key to solve them is to view the essence of life as one whole pool of genes which is multilayered and multidimensional thus with many interacting and interconnected parts. The very inconsistencies that spoil contemporary understanding of evolution (especially distinction between saltationism against gradualism) proof my conclusion because they cease to be such in it. I think the main significance of my findings for the field is the change of paradigm and for the broader community it consists in the alteration of its perception. Except of these advances there is no more need for problematic concept of a species and better understanding of what is life and how it functions.

**Key words:** Evolution, gene, landscape, layer, dimension

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**Corresponding Author:** Stanislav Borzykh, Tomsk State University, Russia

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## INTRODUCTION

This study proposed the new view on evolution. As it 's supposed the main player in this game is a gene. Together they form one common pool or landscape, which is multidimensional and multilayered what helps explain different phenomena, for which today there's no interpretation.

As it's known, there's a great schism between two views on how life evolves. Some postulate that it develops in leaps and that is saltationism and others believed, it moves more gradually without abrupt hops and that is gradualism. Moreover, there is yet another problem, because many species don't change during huge swaths of time though it seems they have to due to the instability of their environment. Finally, we know about gene drift, genome duplication and cases of symbiosis, all of which challenge the main tenets of evolution theory or neo-darwinism. In this study I intend to show how it can reconcile all these facts without undermining neither these apparent inconsistencies nor mainstream dogmas of modern biology. Let review central theses of the latter and try to introduce in them some corrections.

First of all, we must understand who or what is competing with each other as it stated C. Darwin. Usually, we think it's individuals, their groups or species. There are more extravagant assumptions, which postulate it ought to be organs or populations. All this is fine to be sure, but almost everywhere it can see that numerous exceptions and exclusions, which spoil neat canvas of these guesses. So who or what is fighting?

It supposed that it might be a gene. Egoistic or not but this idea is far more elegant than all which were before. Albeit not all these bits of DNA code for something, they are the only universal features of all organisms including viruses. As it were not enough they all are arranged identically in all species and in all times. Of course, they don't possess any personal views, desires or inclinations but they represent the nub of life, as we know it.

**Second:** We must abandon position according to which there are separate organisms, species or groups. In reality, we all are the facets of one picture being composed of the same materials as all living matter. There is no difference between species because the principles, which govern our existence, always were and will be uniform throughout the history of life at least on this planet. Individuals, in this case, are representations of one common gene pool and this brings us to the concept of gene landscape.

In gist, there is a paysage, which consists of genes that are intact in these place and time. It has its own topography with peaks and valleys and it is continuous without any seams, breaks or ruptures. It's not stable due to the uneasiness of Earth and its conditions and it adapts to each new situation reaching more or less sustained equilibrium. In its turn, it changes its environments and this game continues from time immemorial.

**Third:** As is known, the same traits can be obtained through different genes. That means organisms adapt to their milieu using that material which they possess although transforming its expression. Therefore and a little bit simplifying, in some circumstances the same gene codifies for fins and in others for legs but it's alone. In the light of gene landscape, that indicated that situation and its configuration illuminates these genes shedding shadows, which reflect an angle, luminosity and source of light thus shaping individual or species under question.

With time and in the course of mutations the content and composition of this landscape changes. Destructive events such as asteroid or volcano eruption disturb it and rebuild letting an appearance of new species, but before it smoothing its curvature. More prosaic perturbations and shifts alter its view and makeup as well but gradually. What's stable is the very change it feels because there's not a constant configuration for all times and circumstances.

**Fourth:** Epigenetic amendments-as well as genetic ones but with others consequences in this framework relate to shifting source of light, not the genes themselves. It means that the latter stay the same but they are expressed according to a new situation. That doesn't prevent to bring them forward through generations and small mutations, which surely occur, accumulate and thus change species and individuals, but that means there are only these players and not others.

Of course, in norm there wouldn't be any disturbances of this curvature, but due to an unstable character of circumstances, in which we all find ourselves, alterations of genes' expressions are almost inevitable especially on early stages of fetus forming. In fact, the surroundings of the latter are the very womb of mother or some another contraption and she influences its future baby through what she is doing, eating, which habits has and so on. In sum, there's no difference in mechanics between environment and a womb.

**Fifth:** In every landscape not all points are adjacent to each other. Contiguous ones can communicate but distant ones not. It means that not all combinations are realizable as such

and therefore, can materialize those, which are in near proximity with each other. That prevents an appearance of monstrosities and absurd compilations of genes and separates different species from each other. However, there's one caveat.

The metaphor with landscape ends here because it's not two or three dimensional but has many dimensions. In sundry circumstances and in diverse conditions genes can be exchanged and transited in many ways if they are congruent in these time and situation. Surely, some places or rooms in this multifaceted space are more plausible and convoluted and others are more stable and even rigid, but in general all depends on current provisions though it doesn't annul or cancel the principle of closeness.

**Sixth:** This landscape or space is multilayered. That signifies that there's broad cooperation inside it. Thus, different or not so much-species can collaborate with each other sometimes shaping new creatures. It doesn't mean there's no competition, quite the reverse. Animals of all sorts fiercely fight to obtain food, mates and others resources but they also can gain a benefit from partnership, what they demonstrated in some conditions.

However, these layers though contacting occasionally are separated in the sexual sense. Members of each of them cannot procreate with those who are agents of others because there is-as in physics-stable orbits or planes, which they can occupy. Transitions from one to another take time and efforts thus dividing species and locations and preventing undesirable and dysfunctional in these circumstances-combinations. The more genes are away the harder they cooperate.

It should be understood that similarity or proximity of genes in this unified sphere doesn't equate the same features in common sense. If conditions allowed them to form associations or merge with each other they are free to try such behavior, but if the former don't permit the latter to make coalitions they fail to do this and nothing happens. In any case, this space has its own logic and species as well as genes obey it and not that of individual being.

**Seventh:** All that means there's no competition, but a broad cooperation. In each period of time nature arrives at temporal equilibrium, in which though fluctuating but nevertheless stable balance is achieved and sustained. Of course, it depends on more or less constant situation, but in general the latter is a norm, not an aberration and can be destroyed only by some accident or gradually over time.

If something bad in these circumstances or in principle-occurs the whole system must rebuild itself, that is create the new landscape and fill it with new species and gene variation. All that matters is just curvature of this space, which is in its totality an adaption to actual conditions and creating them as well. In more quiet times there's only calm drift within the affordable and gradual change of all landscape and this returns us to the beginning.

Though saltationists insist that there are brusque jumps and alterations of biological pool in this or that direction with explosive speciation, they are right only partially. In reality, we have at one hand relatively brisk filling of abruptly arisen voids, what became possible only after mass extinction and on the other hand new projections and shadows of the same genes. Thus, this process isn't as rapid as they postulate, but much slower. What do we see here?

After many species have disappeared there have left much fewer genes to create a new equilibrium. Though mutations, duplication, gene drift and all others mechanisms nobody canceled initial material in now scarce, but it now could be expressed in many ways and this is what takes place. With the time that translates into new species, but from the genetic point of view, they are not very different from each other because they can't be such.

The absence of the archeological record is not a proof of anything. As is known, not every tissue and organ leaves footprint after it, but much more important is not phenotypic diversity, but a genetic one. Genes decayed with time and we simply can't reproduce them. However, Neanderthals were not very different from us as also others primates are and this demonstrated that far more important are genes, not their manifestations, however essential they were.

Proposed view also solves the problem of rising complexity. Once again, what matters are genes, not their expressions. That means every time we have this configuration of genes and that's all. Today we haven't enough information and thus complexity can either fall or increase, but even if it grows it is due to more time has elapsed and more combinations were tried and nothing more. There's no intrinsic drive toward more delicacy, only natural processes of experimentation and adaptation to new conditions.

Of course, that raises the question about our intelligence. As it seems we are the only happy possessors of it and this is conventionally explained that our gray matter is simply more complex and that of others is plainer. Moreover, it's usually stated that genes are not all and their expression is more important and therefore what matters is the difference, not similarity, especially in performance, not in the constitution.

Leaving aside all philosophical considerations the main of which are our inbuilt ignorance and strictly human point of view in fact, there's no such a big gap as we used to think. People are animals and we always were adapted to be primates, not scientists or artists. Moreover, we are just manifestation of a unified field, if you want its protuberance or elevation, but in the same vein, such are all the others, because they transcend the rest in something. We haven't to focus on our recent past, but we ought to see the whole picture and the latter shows we are representations of one sphere in these circumstances to be sure just bipedal and naked primates. Alas, nothing more.

All these talks about complexity are simply wishful thinking, because we are here and we can think about ourselves and about the world around us, we like to suppose that there were some processes, which led to us as its pinnacle or summit. Each time there was a quite elaborate system, which consisted of many species and genes and we cannot say that ours is more complicated than every that it preceded. Even if it is it's due to accumulation and diversification of united field not out of some natural logic.

If we won't forget that the life on Earth on one hand still is mainly unicellular and on the other was such during eons before in some domains becoming multicellular, we won't look at ourselves or primates or mammals with deep respect and awe. It took a long time to discover new possibilities and even after that happened majority preferred to stay simple, but constituting much more large canvas than each of its members was, is and will be.

We all are assembles of many parts each of which is almost identical to the rest. Of course, there are peculiarities and particularities but in the gist we all are the same not with standing who we are and how we behave. Multicellular organisms are in the minority, though they usually strike the eye, but what is much more important is that there are genes, which shape all of us and this is the only one what matters. In this view we even more equal because there is no difference in what to build, something complex or simple. After all, communities of unicellular individuals are elaborated too and they obey all laws, which govern the existence of sophisticated animals. Needless to say, we are accustomed to see separate beings. It's quite natural and predictable. However, we must leave this slippery position which causes misunderstanding of what occurs in the world. Though there is some competition and even fight, biosphere is one organism, which evolves over time changing its configuration and content. Individuals are only representations of its inner dynamics and nothing more. What matters are genes and their combinations and the rest just doesn't qualify.

The best example of this logic are bacteria. As is known, they practice drift of genes shaping new creatures in the blink of an eye and even transferring this new structure to their descendants. We don't recognize this, but we are the same notwithstanding we don't reproduce by division. We are exactly the same chimeras though we don't see ourselves in this way, but we are manifestations of genes' assembling. There is no sense in saying about our separation and good structure. As was postulated above, we are possible and feasible beings, what means we were constructed so because it was realizable at all.

There is no reason to believe we are normal, because we have hands and legs where they should be and what they ought to be. Though it's important, what's more crucial is that we-or more precisely our genes-follow all the rules, which brings upon us the very nature and that makes us who we are. If circumstances were different so our normal appearance and our perception of ourselves if it was in principle-were also another and that means we don't have a right to speak about normality as such, but only about our adequate position in general order of things in these moment and conditions.

According to this view, each species is more or less isolated quantity of genes, which neatly interconnect and individuals in it are variations on the same theme. Between organisms there's no great gap, but the latter grows the further we go from the center of species. Therefore, there's no abrupt division among animals and only slow and progressive flow from this to the next one. Even in the epoch of explosive speciation, these intermediate steps are indispensable and what distinguishes this situation from a normal one is more quick detachment but not the very logic of system's functioning.

In this light, all organisms on the Earth are the same or more correctly, there's one immense organism, which fluctuates and transforms due to changing situation, which it partially creates. That whole consists of genes and their interactions as with each other so also with its environment. All this can be disrupted suddenly because of some disaster, but if mass extinctions taught us something it boils down to the fact that life is able to reconstruct itself even after catastrophe, but once again with compliance with the basic logic of its mechanics.

Moreover, that also means that there are no species as such. We don't need them anymore. Knowing that they are problematic at best and even toxic as a concept, now we can abandon them at all, because boundaries between them matter only if we want to place them and if they are hard to discern then we leave them as useless and even harmful. What we need is to have one organism, every part of which is

independent only in our eyes and works as one whole. Yes, we are able to find these constituents, but no, they aren't free, but generate the very flesh of the Earth.

That all sumptuously corresponds to what we know about genetics, biology, the theory of evolution and all knowledge we have obtained until now. We simply must forgo old and so natural view, which states that there are individuals or species. Of course, that is difficult to fulfill. We used to see separate beings, which interact and have their own destinies, which are distinguishable from each other, but we have to do this if we strive to understand how nature really works. In fact, it's one whole and this explains why we find so strange and amazing things such as gene drift, DNA duplication, symbiosis and so on. In one organism all that is not only possible but strictly necessary and namely that we discover around and inside us. This multilayered and multidimensional reality or sphere or sum of fields is what we must to find considering all facets, characteristics and processes discovered in the biological world. Species as complexes of genes or genes themselves hold inside it their places feeling degrees of freedom, which hold them on their orbits and don't let them mingle with each other until potential combination become plausible or until the moment when they come together close enough to form coalitions and new unions.

Some of these fields are stable for long periods of time, others fluctuate more frequently. On one hand, it depends on the constancy of environments or low degree of their changeability on the other it stands for more or less universal

character of species or gene under question. Neither way we have either stasis or rapid mutations, but the logic of this system stays the same because what's important is the whole, not its parts. Once again, we all are representations of this reality and nothing more.

Of course on the level of individual behavior we can see and discern competition and cooperation, birth and death, successes and failures, personal movements and strivings even thoughts and consciousness, but they per se have no meaning in general picture. What matters is the latter but not the former except that in total. The essence of life is these eternal change and transformation, which occur inside it and don't overflow outside. We all are the same and tightly interconnected.

We have a bad habit to divide but not unite. Though this attitude worked for a long time and brought us many insights and discoveries, we must understand that there is not only analysis but also synthesis. Proposed view lets us glance differently on what we call life and on how it functions. The old approach didn't become obsolete, but it's incomplete and utterly one-sided. We need now unifying theory, which would help us to understand the world as well as ourselves better.

Life is a continuum, which consists of genes interacting with each other for large periods. What is permissible is feasible and thus implementable. We all are made of the same stuff and that shouldn't surprise us. Though we see ourselves as independent beings, we are manifestations of inner processes of this whole and that is all.