Journal of Environmental Science and Pollution Research 1(1) (2015) 32–35

ISSN: 2455-0272

Contents List available at JACS Directory

Journal of Environmental Science and Pollution Research

journal homepage: http://www.jacsdirectory.com/jespr

Binary Plural Concept of Evolution of Animate Nature

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ARTICLE DETAILS

Article history:
Received 02 November 2015
Accepted 16 November 2015
Available online 14 December 2015

Keywords:
Natural Selection
Binary Plural Evolution
Plurality of Selection Ways
Adaptability
Inexpediency of Selection

ABSTRACT

Known theories of evolution and natural selection do not correspond to the actual diversity of ways of nature development. This is due to the limitations of simplified thinking associated with the structure of the man's brain. From here is a limited number of directions of evolution and selection. Author proposes the new representation of the binary plural ways of evolution with a balancing branching development, which fit into known forms of natural selection and evolution. Evolution has binary plural directions; natural animate organisms have greater adaptability, smaller adaptability, or bad adaptability. Therefore, in the finest progressive living organism, in progressive population, there are oft many signs of retrogression. Does the natural selection adapts each living form slowly and perfectly, as believed Ch. Darwin? Does the world of nature is perfect, as believed K. Timirjasev? No, the world of nature is binary plural world, perfect and far from perfect, with many intermediate forms, and natural selection is diverse in its results.

1. Introduction

One of the outstanding achievements of humanity was the identification of areas of the evolutionary process of the natural world, the establishment of the doctrine of speciation and natural selection [1]. Understanding on the evolution of nature and human is essential for both the natural world and for human beings. Concept of evolution and natural selection is constantly evolving. After studies of Ch. Darwin and A. Wallace, the theory of natural selection and evolution constantly widening. The synthetic theory of evolution was established [2, 3], new forms of selection - stabilizing and tearing selection - was opened; there was expanded form of speciation, was added positive and negative selection (from whose perspective?), the selection of genes, etc. However, features of simplified thinking and of perceiving of reality have an influence on analysis of the daunting process of man, as the evolution of the natural world. They limit the possible objective and multifactorial analysis of actual evolution. Simplified dual perception of reality is one of the most necessary mechanisms of survival, natural selection in nature: animal must react quickly to danger; it should instantly choose a path of survival on a "yes - no": "danger - security", "run - stand", etc. This dual choice was not possible if the short-term memory was used to analyze large amounts of information. Simplified binary and even unipolar thinking was embedded in the natural evolution of the animal world; "innate starting devices", "memes" were created for rapid response, etc. Such simplistic thinking of humanity was created to help survive.

In accordance with the dual thinking, a person has created simplified laws of evolution and development based on dual representations (laws of negation of negation, of the unity and struggle of opposites, of change of the quantitative changes in quality, etc.). Everything that does not fit into these patterns was called as exceptions. In reality, all the rules and exceptions must be in binary plurality, complementing each other. Binary (dual) multiplicity includes the subsets of objects and phenomena, combining a variety of properties, from close in value, quality, and more rarely opposite (binary oppositions).

It is likely that the man knows not all exceptions (or rules). Exceptions highlight the incompleteness of laws, their limited field of action, and the possibility of including them as private laws in more general, which take into account the multiplicity of binary objects and phenomena and their relationships. In accordance with a simplified way of thinking is that the evolutionary process goes in two directions - biological advances (increase the adaptability of the environment) and regression (reducing the level of adaptability). Long aromorphosis, bringing new levels of organization of living organisms and is taking place on the basis of genetic variation and natural selection, the shorter idioadaptation, and total degeneration are the ways of biological progress [1, 3]. New researches reveal new trends of evolution; they strive to diversity, to plurality.

2. Experimental Methods

The real evolution of nature goes by complex interaction of the binary set of objects and phenomena [4] in the global "web of life" [5]. In view of simplified thinking and limited number of pieces of information, a man creates a simplified, as a rule, the dual concept of the world ("progress - regress", etc.). Reduction of binary multiplicity of objects and phenomena to duality and to bipolar (two subjects or phenomena with opposite properties) is most often a biased assessment of the world. From the beauty to ugliness are many transitional forms.

But such are the peculiarities of thinking and perception of the world by person. The binary plurality of cause-and-effect relationships is reduced, as a rule, to two or three. Probably discovered by person patterns of the natural world have particular view, they may not be the general laws, as do not take into account the complex multiplicity of interacting binary objects and phenomena. Those are probably, and natural selection and the theory of evolution based on dual conception (for example, biological progress and regress, aromorphosis and degeneration, etc.). Strikingly, but, as a rule, the number of determining factors addressed in laws, usually no more than 2-3 (!). This is particularly short-term memory, in which a person "lives".

Real world of nature is plural world. For example, I. Prigogine is noted: "our vision of nature has undergone radical changes in the direction of a plurality ... Today we acknowledge that we are living in a plural world" [6]. However, the world is not only plural, it is binary world, all of its objects and phenomena are subsets, each with different properties. The law of binary plurality of all objects and phenomena is probably one of the most general laws of being [4, 7]. The real binary multiple nature evolution takes place in a variety of directions, which, moreover, is dual. In line with this development often comes with forks, when each progressive step then is counterbalanced by "negative" from the point of view of the person. If we accept the action of the universal law of the binary plural objects and phenomena and branching development, it can be assumed that the completely progressive evolution of the species does not exist, the

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seeming lack of the negative branch can be caused by either insufficient time observing or simplistic analysis. "Every progress of the organic evolution is the regress" (F. Engels). Every "progressive" direction in the evolution is simultaneously of the "regressive" direction. The human emotional evaluation of orientation of the evolution of nature is not legitimate. The binary plural world of nature was created during the evolution; it includes organisms with multiple, expedient and inexpedient, features (Fig. 1). Only subset, much of the organic world, amazes by the expedient, beauty and harmony. In accordance with the doctrine of binary plurality, the evolution created many other properties and objects, horrific, unpleasant, and inappropriate from the point of view of the person. Among the extraordinary variety of inappropriate signs are the great number of roe, sperm, pollen in nature, strange process pairing of some animals, various non-functional organs, etc.

The evolutionary process has three main features (again 3!): the emergence of fitness of organisms, speciation (the constant emergence of new species) and permanent complication of life from primitive cellular forms to person [1]. Now, due to the heightened technogenic influence on the environment, this process varies. New process begins - the process of devolution, of convergence of multiple, disappearance of species; it is reverse to the process of natural evolution. How will go this process (unusual for nature of Earth) is still unknown. Some of its signs are already evident: the reduction of the natural environment, species extinction, deforestation, pollution, growing technical diversity, etc. Natural selection may ultimately disappear, like most species of flora and fauna.

Binary multiplicity of evolution emphasizes by the many already discovered species selection (there are, apparently, and unknown types of selection): driving form of natural selection, gap and the rapid development of a small population, stabilizing selection, tearing selection. N. Vorontsov [3] proposed the destabilizing selection. All this is proof of the binary plurality of evolution. Does not match the concept of progress the overall degeneration - the simplification of the organization, accompanied by the disappearance of some systems, organs and their functions.

Dual separation of directions of evolution on the progressive and regressive is relative separation, as these concepts have a clear emotional meaning. At the same time in every living organism, and even more so in the system, there are signs of progressive, regressive and neutral development in their interaction. There are oft many signs of retrogression in the finest progressive living organism, in progressive population, Does the natural selection adapts each living form slowly and perfectly, as believed Ch. Darwin? Does the world of nature is perfect, as believed K. Timirjasev? No, the world of nature is binary plural world, perfect and far from perfect, with many intermediate forms, and natural selection is diverse in its results.

However, with a limited number of determining factors of evolution, in which there are highs, opposites (driving form and total degeneration, devolution), and intermediate forms (stabilizing selection). Multiple paths of evolution and devolution is growing due to human interference, artificial selection, reduction of natural territories, ousting of nature, disappearance of species, the partial release of a person from the natural selection, intervention at the genetic level. Sometimes plural signs are fasten, not only positive, but also not adaptable (Fig. 2), and even harmful signs. Modern concept of ways of evolution is characterized by a number of features and rules [1, 3, 7], which brought us to table (in addition to the known forms of evolution author added more general binary multiple paths of evolution and a modern factors) (Table 1).

Fig. 1 Tree of binary plural branching evolution

Fig. 2 Fastening of useless or harmful signs: sacculina (cancroid parasite), three-horn chameleon, two-horn hornbill

Speciation in presence or absence of branching is divided into filetic and divergent; filetic speciation in presence or absence of progressive change is divided into stasigenesis, kladogenesis and anagenesis. Divergent speciation on the presence or absence of spatial separation is divided into allopatric, sympatric (ecological, allochronical, polyploidical, hybrid, chromosomal). The allopatric and sympatric forms act together. There is a multiplicity of forms of speciation; of course, not all forms are revealed and not all are clearly separated, and adds a technical effect, which not only limits the field of activity of natural evolution, but leads to technogenic evolution, including disappearance of species (in addition to the natural disappearance of species).

Table 1 The plurality of forms of speciation and disappearance of species

By Ch. Darwin, and phyletical			Simge-nesis	Transduction	Divergent	
Ana-ge-nesis	Clado-ge-nesis	Stasige-nesis			Allopatric	Sympatric
					Both forms act together	
Speciation and disappearance of species, conversion of organs and signs in time						
Gradual speciation	Technogenic complication of speciation	Sudden speciation	Intermittent speciation	Synchronous tempos of speciation	Independence of tempos of speciation	Plurality of disappearance of species
Trend of evolution						
«Canalized» evolution				Binary plural evolution		
Degree of "progressiveness" of evolution						
Biological “progress”		Plural intermediate combinations			Biological "regress", devolution	
Well-known binary plural evolution and devolution (there are most likely unknown forms)						
Aromorphosis	Idioadaptation	Total degeneration	Plural evolution	Natural devolution	Technogenic devolution	Plural devolution

3. Results and Discussion

Natural selection did not always encourage improved signs for reasons of its plural ways. More often, the natural selection fastens signs, which allows existing to the organism, but are not optimal, and sometimes imperfect. Natural selection creates sometimes fantastic shapes, far from expedient. Evidence of the binary of plurality in the annex to the areas of evolution, to the process of development of the various species, are very much. Among them are a lot of expedient and inexpedient, which created in nature [4].

Inexpedient in nature is shown as not the right material, construction, process, functions in order to achieve the goal. Perhaps inexpedient is organic property of the natural world, which is the engine for the process of evolution. There are in nature many inexpedient and absurd directions of evolution together with expedient. This is the binary plurality. The structure of natural selection can be represented in binary plural form (Table 2).

There is on Fig. 3 binary plurality of forms of natural selection and of speciation. There is on Fig. 4 binary multiplicity and variants of variability of signs "progress, regress" depending on the pressure of evolution or devolution. As noted by K. Lorenz, "sometimes" selection looks through your fingers "and not simply misses the second-rate design, it reaches a deadlock ("gating" above). The complexity of evolution pointed out V. Solovyov: "our biological history is slow and painful birth. … convulsive shaking motion, blind groping; … There was many monstrous creatures and miscarriages»! As follows from this statement, there are usefulness (birth), and the apparent irrationality (monstrous brood). There are a lot of organs and functions, which may be more appropriate. Why in process of very important homeostasis all organisms must be eaten up? What is the form of natural selection among a number of insects, encouraging devoured by a female the male after fertilization? Why is incredibly wasteful pollination? Natural selection encourages and fastens and unnecessary and completely negative signs due their binary plurality.

Table 2 Structure of binary plural natural and man-caused selection

Plural variability	Multiple inheritance	Multiple survival
Changes of environmental conditions (including man-caused)		
Differential response of species populations to environmental factors		
Complex impact of technogenic evolution and devolution of nature of Earth		
Interspecific and intra-specific aggression, fighting with the abiotic factors		
Mutation process that modifies the genotypes, and free interbreeding including man-caused factors		
Well-known plural natural and man-caused selection (there are most likely unknown forms)		

Driving form	Stabilizing	Destabilizing	Tearing (disrupting)	Artificial	«Passing», (pervious), «gating»	«Positive and negative»	Sexual; at level of genes	Plural
Selective elimination of loss-less adapted species, survival of some less adapted species; "gating" of species by selection								
Survival of the more adapted (sometimes less adapted) species and the creation of posterity from all surviving specimens; "gating" of species								
Multiple effects of natural selection through the functions on conversion of morphological structures of living organisms								

Rapid change in the highly specialized organs when changing their functions	Long absence changes	Slow changes of polyfunctional organ (for example, brain)

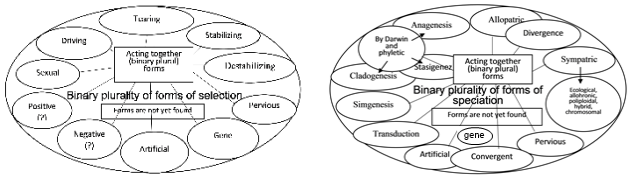

Fig. 3 Binary plurality of forms of natural selection and of speciation

Is it possible to include the development of any animal, including humans, to aromorphosis if its separate bodies are far from perfect functioning? The sign of evolution is the development to the higher forms, to raise the level of the organization. However, the nature introduced here the branching: the highest achievement of evolution – people - is the most dangerous species for nature and for homeostasis, created the danger for the existence of all nature.

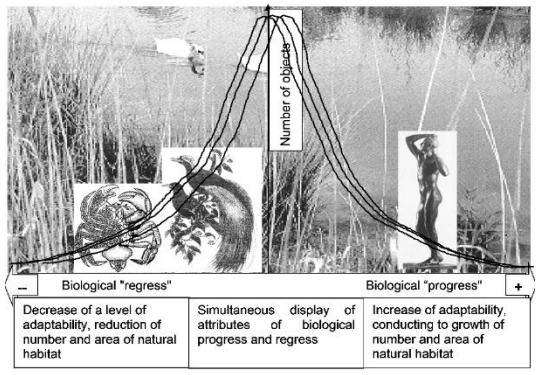

Fig. 4 Binary multiple paths of evolution and devolution: the curve can slowly move under the pressure of evolution or devolution.

If the ramifications of the development process is real, nature must pay for the complexity and increased level of organization, level of fitness, by way of the "negative" branch. This branch realizes on the example of the nutrition of living organisms and food chains. Some of the earliest and most primitive living creatures were organisms with photosynthesis, they used the reaction of photosynthesis, i.e. do not eat other living things and were not themselves food for other organisms. Highly organized animals feed on other living organisms, and are themselves a source of food; they are included in the food chain as necessary components. Thus, raising the level of the organization has led to the emergence of predation, parasitism, and unethical food chains (nutrition at the expense of other, sometimes highly organized, living organisms). Apparently, this development can be called as binary plural, with simultaneous action within a single animal or population of several lines of evolution, and in a variety of relationships. The evolution of the level of organization has the branching form (Fig. 5).

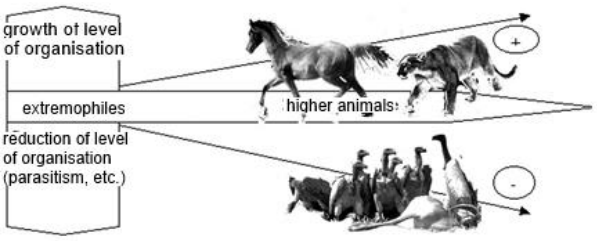

Fig. 5 The branching of level organization

Each improvement, aromorphosis, entails a balancing negative branch of animal life. Upgrading the level of organization, the evolution reduces the degree of reliability, as the number of components and the relationships between them grows; organisms are more sensitive to environmental parameters. Many simple organisms, created during evolution, continue their being; their fast development is possible as a result of increased anthropogenic effects [4]. Life of good adapting highly organized species is supported as long as anthropogenic factors not narrowed or eliminated their ecological niche. For any living organism reality is binary evolution, which includes many positive and negative (from the point of view of the person) directions, growing with balancing branching (Fig. 6). Wildlife and people evolve in the binary set of directions. The complex world was created as a result of evolution and natural selection, with positive and negative, expedient and inexpedient, beautiful and ugly, objects and phenomena.

Wildlife is developing in many objective directions, which are equally essential for development. The binary plurality of directions of evolution cannot be divided artificially into only progressive and retrogressive directions; they manifest itself in every living organism at the same time, in the organic unity of many areas. Multiple paths of evolution is increasing due to strong anthropogenic interference, artificial selection, reduction, ousting and suppression of nature, technogenic extinction, the transition to an intervention at the thin genetic level in evolution and natural selection. The natural evolution and natural selection are constantly shrinking, the loss of species and the breaks in global link networks of life lead to a rapid and unnatural for the evolution of the redistribution of the interaction of organisms with their environment. Binary plurality of evolution allows thinking that the multiplicity of ways the evolutionary process is optimal for reliability, stable flow and continuity of evolution, for homeostasis and the evolution of life on Earth. Due the binary plurality is supported the constant movement, development, evolution, and is excluded the stagnation, the cessation of motion. Binary multiple directions of evolution implies the possibility of directional displacement of curve of normal distribution characteristics by pressure of evolution and devolution; people can prevent the reduction of diversity, as a result of ecologization. However, anthropogenic interference in evolution and natural selection suggests that will occur the narrowing field of natural selection and the reduction of many evolutionary relationships and evolutionary paths. May be realize the significant change in the direction of natural evolution, including a massive artificial species extinction, the growth of artificial environment, not limited reproduction of some organisms (such as cyanobacteria) that may be harmful to the life of other organisms. These phenomena are technogenic devolution. The results of this process are unpredictable.

Devolution of wildlife runs in many directions; some of the devolution ways are due to natural selection, simplification of functions with the disappearance of the organs (degeneration), other are due human impacts. The critical question here: is there the end of the evolutionary process of wildlife; the growth of biodiversity cannot be infinite. It must be either stabilization or devolution. It is difficult to imagine a stabilizing selection or other form of long-term stable existence of wildlife on Earth. Most likely,

there will be partial stabilization, a minor evolution, and then disappearance of species because of a reduction in area of natural environment and other technogenic influences. Human (simplified, emotional, built on the needs) assessment of the evolution, nature, life, can lead to unacceptable interference in the process of evolution, to the growth of artificiality, to promote the progress and related creatures of nature, and to eliminate the "regress", unpleasant, dangerous, seemingly useless landscapes, flora and fauna. People have the propensity to simplified dual and even the unipolar thinking. They will never cease to dream of paradise, about the fast artificial landscapes, universal including genetic health and beauty, of universal happiness, because this is one of their basic needs. But universal paradise landscapes, beautiful and useful nature, beautiful animals, ethical, intelligent, beautiful people, never will be in the real binary multiple reality [8-10].

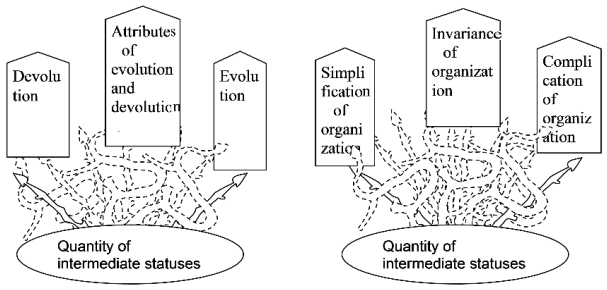

Fig. 6 Binary plural evolution and devolution

4. Conclusion

Natural evolution and natural selection have binary plural directions. Notion about slow evolution of binary plural world and man, about dialectical necessity of all negative as an organic part of the world, about permanent interaction of all binary multiple objects and phenomena, about signs of a slow binary multiple devolution, of the need to reduce the anthropogenic impacts and degree of artificiality of environment, of the necessity of growth of ecologization, will help to identify ways of a more balanced interaction between people and between man and nature.

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