Sergey I. Kretov: Human Capital in the Deep Ecology Paradigm

Several thousand years passed and nobody, but Confucy gave the most overwhelming and precise characteristics for Human being of the Future. Till now his "noble man" may be regarded as the goal looked for by the whole educational and training system for a new generation.

The frameworks of this presentation do not allow to open up all details of the thesis declared in the first paragraph. We shall specify only several parameters of the "noble man" category as an ideal materialization of the abstract scientific term "human capital" and absolute target for educational and training system.

In Confucy's era, apart from many existing till now positive and negative human qualities, an important one was aristocratism. Intellectual-aristocrat radically differs from intellectual-liberal because the former was free from thoughts about personal material consequences while researching any problem, decision making and taking responsibility for it. Aristocrat moral self-appraisal was prosperity of compatriots influenced by his decision and his own reputation among the people. Translating this thesis into the modern language of cybernetic epistemology, one can declare that undisputable values for noble man, intellectual-aristocrat was the principle "the gain for the society ruling subsystem is the gain for the society guided subsystem".

Can we see something similar in modern intellectual-liberals' behavior? No. The most vivid illustration of this contradiction is the comparison of public speeches delivered by Chech President V. Klaus, who, in the modern history, managed to approach as close as possible to the title of "noble man" and by his antipode Barack Obama. The latter is not only constantly demonstrating his bad plebeian behavior, cynicism, neglect to the people, peoples and states, but publicly puts on air his "new barbarism" as the top achievement of American democracy. At that, one has to underline that this is not the guilt of Obama and majority of modern high-ranking representatives of the main "developed" countries-debtors, but their misfortune, because modern educational system, stuck in cultivating egoistic and greedy individuals for the needs of capitalitarian model of human society, does not have even the most general comprehension about such necessary quality of any noble man.

Scientific analyses of the current situation using the cybernetic epistemology (complexity theory) methodology requires introduction of new categories. We all remember recent interest in class theory of society construction, the remnants of which one can still notice in some marginal Marxist publications. However such primitive and ideological approach to complex dissipative system of society can only lead to the revolution, bloody and ruthless. Scientific analyses and complexity theory21[i][ii] allow to split any system into two obligatory subsystems: the Ruling Subsystem (further-RS) and the Guided one (further-GS). RS is ruling until it becomes inadmissibly much too simple in comparison with complexity of GS. In such case machinery and instruments will go off in technical systems. In living ones, the substitution of biological species happens in the form of natural evolution. In human society the historical change of socio-economic formations takes place.

The best historical illustration to prove the point is the USSR destiny. If one regards the events which took place in USSR-Russia in the past 40-50 years, interesting historical phenomena will be discovered. The reforms in the USSR were begun because its RS kept on becoming more and more primitive, while its economy and society objectively reached unprecedented complexity. In other words organized, complicated and well educated society and multilevel diversified economy of the USSR was resistant to the total directive regulation and imposing of primitive will of the ageing minority - RS. GS of soviet society reached out

22[ii]The essence of "complexity system" category is defined by 3 interdependent components of the pattern of organization. These are synergy, autopoezis and recurrence.
of the RS control of Politbureau and the CPSU Central Committee which broke about the collapse of the State. It happened so catastrophically rapidly due to the fact that process of RS reformation was accelerated by both inside and outside "help".

In the trouble waters of so called reforms, the new Russian RS was formed from even less professional, interested in personal enrichment and, the most important, socially irresponsible characters. It meant, it became even more primitive in comparison with soviet epoch. So called Russian reform actors and their numerous advisors from foreign intelligence services felt it and therefore quickly began to solve the problem of RS-GS relative complexity. But instead of increasing the complexity of RS in accordance with the meritocratic principle, they began to simplify GS, trying to bring it in line with their level qualification, interests and moral.

As a result, the systems of state planning, forecasting and management, financing, price formulation, taxation were wiped by paper laws of "national treachery epoch". Scientific researches, education, medical care and culture were put on the brink of survival. All enterprises and branches of 4th technological wave (by Kondratiev) and those engaged in creation of 5th wave technologies were destroyed along with scientific and technical infrastructure. Active scientists were pushed abroad or generally out of science by economic strangulation. Agricultural production and transport system were ruined as well. Drastic simplification of all sides of economical, political, cultural and social life in Russia continues by enforcing Universal State Examination (ЕГЭ) in the schools, with western standards of pupil's education, introduction of paid education and medical care and so on. The achievements in GS simplification allowed to begin the final stage of Russian Academy of Science demolition, regardless its 300 year history, traditions and continuity. Nobody, nowhere and never even tried to put scientists among which are a lot of really noble men, in dependence from lower educated, lower qualified and only profit thirsty managers, unless the idea was to destroy the science corporation.

Second, also fundamental problem, is the scientific search for such tools, which could allow to train and educate noble men for meritocratic build up of RS for future society out the existing primitive human capital, oriented on profit maximization by all means. Here we can fully rely on cybernetic epistemology (Complexity). The key idea for understanding the process of training and education is the process independent from our will and consciousness of "territory into map" transformation or transformation of facts and phenomenon from the sphere of functioning into the images (pattern components or subconscious images) by which only human consciousness operates.

For simplicity sake we shall regard, how such an ordinary thing as "stool" is kept inside human head and transforms into recognizable by all and everyone image of "stool". According to the laws, discovered by scientists, sound vibrations, arising from spoken word, reach the humans ears. There, without consciousness interference according to bio-chemical process they transform into the certain electrochemical signal, promptly entering the brain via hearing nerve. This is researched by sciences with prefix "neuro-". Subconsciousness (this is already physiology) in response on this signal gets from its

23[iii] In one of his public speeches V.V.Putin drew attention to the fact that during the period of privatization in 90th "as today became known, in close quarters of Mr. Chubais professional agents from CIA were working as advisors. Under US laws they were forbidden to make business on their insider information. But they violated it – corruption, so to speak." In more details: http://www.politonline.ru/ventilyator/13467.html

24[iv] This is the formula by well known all over the world philosopher A.A.Zinoviev

25[v] Methodology of complexity theory applied to complex socio-economic systems is being developed by author with the respect to the research results of many scientists. These are: A. Bogdanov (Russia), F.Capra (Bercly), I.Prigogene (Brussels),U.Maturana (Santiago), F.Varella (Paris), L.Morgulis (USA),B.Mandelbro (USA), G.Beatson (USA), S.Kaufman (USA) and others.
bibliotheca of the pattern (subconscious image) of organization components.

(further POC) for decoding of the received electrochemical signals combination. In our case they are "sitting place" and "support". Subconsciousness delivers to the human consciousness on the inside kind of dialogue, unconscious for man level, these POCs, so explaining the meaning of those vibrations that entered the ears. In the regarded case, the stool itself might not be present. The same POCs will be delivered if man sees one of the numerous models of stool or reads this word in the newspaper, feels familiar smell of wood or even hears the characteristic sound of the falling stool. POCs are delivered by subconsciousness in response for any familiar signals, coming from hearing, seeing, smelling, tasting and even from the sensations called 6th human feeling. It is exactly the subconsciousness that is driving the consciousness and selfconsciousness of any human being, school boy, student or scientist delivering to their understanding, by means of corresponding POCs, what they heard, saw, felt etc.

Unfortunately majority of scientists and professors ignore this defining process, which is called in cybernetics "transformation territory into map", or real fact into image. Such misunderstanding is particular catastrophic for education and training systems of what is called "human capital".

The example is clear, if sound vibrations came from the familiar word "stool". In case if some signal came transforming from unfamiliar sounds, for example, from unfamiliar word or concept, the subconscious keeps silent until it is informed by other channel or some other way, that this new electrochemical signal corresponds to certain POC, kept in subconscious. POCs do not depend upon language, by which man receives information. The routine term "market economy" sound differently in different languages, but its POC is uniform, because these are the "basic stones" which support the consciousness interaction with the environment by assistance of our organs of feelings. Subconsciousness explains consciousness two principally different words in foreign languages by the same POCs and one can understand the foreigner. So, it is the subconsciousness, which is unavoidable and dominating intermediary, which provides understanding between the people basing on its internal dialogue with consciousness. This understanding is the key to the radical change of the whole system of training and education. And the scientific thought requires transition to the system of permanent education for renovation of quick ageing POCs.

In foreign language western term "components of pattern of organization" is used, which further will be regarded as foreign analogue of Russian term "components of subconscious image". Those two scientific categories have uniform POCs. But it has to be noted, that "components of pattern of organization" is category in some sense external in relation to the pair "consciousness - subconsciousness" of the human being. This is, so to speak, an element of "external memory". "Subconscious image" is a phenomena appearing inside human brains, in the process of thinking, independent from man. In this sense Russian version of the...

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26[vi] It is interesting, that modern scientific paradigm has no doubts, that Earth is rotating around its axle. But it means very little for a consideration of Planet's population, who continue to consider that the Sun is moving around the Earth, basing on their daily observations. According the data, published 11.02.2011 one third of Russians (32%) consider that the Sun is Earth's satellite. These are the results of the public poll, conducted by Whole Russian Center for Public Opinion Studies on the eve of the Science Day. Sociologists mark, that in comparison with 2007, the number of Russians considering that Sun is moving around the Earth all but increased, since previous poll gave results only 28%. But this is not all. Some time ago at the end of January, beginning February 2011 a video clip was placed in the Net, where a Frenchman, participant of the game "Do you want to become a millionaire?" was asked: "What is rotating around the Earth?" The multiply choice answers included 4 variants: 1 Sun; 2 The Moon; 3 Saturn; 4 Jupiter. The potential millionaire and erudite, missing the answer, asked help from the viewers. The result of their voting was that 53% of them confirmed that the Sun is moving around the Earth. And this is the opinion of the most educated part of French society, who want to make money by their knowledge!
category ("subconscious image") is more precise and organic category to characterize the process of transformation the “territory into map”. 
"Territory into map” transformation is typical not only for the cognition process. Most important, that it is definitive for the processes of teaching and training people. In other words the process of human relations and cognition is realized through the time interval and unconscious process, which defines human perception of the environment according to POC, created in the process of previous education and experience stored in subconsciousness without our conscious participation. Understanding of this property of human perception explains majority if not all the problems of misunderstandings, quarrels, scientific arguments and discussions, which sometimes bring about grave consequences for certain people and entire nations.

In this connection, it is fair to formulate the main fundamental task, one might say, even mission for education and training system. It consists of humanistic POCs bibliotheca creation for society members, which excludes their behavior outside of frames, for example, of Godly commandments. As for rating of current education system, it can be formulated very shortly – modern citizens confidently perceive the boundaries of their knowledge as the boundaries of Universe. This example highlights the quality of modern human capital.

The regarded facts – they are only one side of the coin. The other objective one, is also important and has to be taken into consideration by education system. To present it, let us bring into picture the wonderful Gödel's theorems on incompleteness27[vii]. The essence of first theorem in simple terms one can present in the following form. In any non contradictory system of images, based on the counted number of basic axioms, it is always possible to formulate an expression, which principally cannot be solved within the frameworks of accepted axioms. To solve it, one has to introduce into the system a new axiom. In this way Euclid's mathematics was transformed into Peano's mathematics, where axiomatic line is not closed, but is open.

All modern socio-economic theories in the final count are based on three fundamental axioms. They are exactly the ones, which form the POC backbone of biological life on Earth.
First component is dead nature, matter, substance and methods of natural energy transformations on the way to heat balance (entropy growth) in accordance with second principle of thermodynamics.
Second component is cell, as complex micro formation, capable for self organization and self development, increasing its degree of order and moving in reverse direction to the chaos of dead matter world.
Third component is macro process of primitive organisms' evolution into human being. This is component of enterprising innovation of Nature which, without scientific research institutes, designing bureaus and even without parties and governments, succeeded to create the most perfect creature on the planet – human being, possessing an intellect.
These 3 components were presented by F. Engels following Feuerbach, in the "Nature Dialectics”28[viii]. However, the socio-economical process, which rapidly develops in the world, already is impossible to explain within these three axioms. Globalization is unpredictably stopped by world crises of a millennium. Following fascism and socialism the last ideological construction – liberalism29[ix] is falling. Only listing of the western

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27[vii]To learn better these theorems of genius, look, for example, Uspenski V.A. "Gödel's theorem on incompleteness in popular form. Digest "Successes of mathematical sciences", v. XXIX, issue 1 (175), January-February 1974.
29[ix]Robert Mandell, Nobel Prize winner 1999, the scholar of M.Flemming in 2010 during the interview to The Wall Street Journal publicly refused the liberal paradigm («Where Do We Go From Here») http://online.wsj.com/1

The new task is facing the humanity (it is formulated in accordance with the Gödel's theorems) which has no solution in the frameworks of classic axioms, which were formulated in 2 extreme forms: Homo Economicus in the West and Homo Soveticus in the USSR. To answer the challenge of modern civilization and education system crisis it is necessary to formulate new axiom, which is offered by the author.

The fourth axiom (POC) until now had never been formulated by any researcher. It can be represented as autopoetic (from basic autopoesis), independent from processes in education and science, consciousness evolution process, which comes into materialization in two forms:
- in innovations as the method to magnify human capabilities for Nature conquering;
- in paper laws as the methods for RS to take control over GS for redistribution of public product in private interests of minority.

The discovery of the millennium is the understanding that in the base of the socio-economic relations in general and relations in connection with education and training in particular, lays the human consciousness evolution. The future of relations in the process of production activity was described yet in 1967 in J.K Galbraith's book "The New Industrial State" 31[xi]. He showed 4 consequent stages of human activity motivation: 1) physical enforcement; 2) economic enforcement; 3) internal need to be useful for other people; 4) creativity in a pure form. This 4th axiom, interpreted as humanistic transformation of our consciousness and pushing out of it the egoism, greed, individualism etc., explains the roots of modern crises and unsolvable contradictions. It brings forward principally new tasks for education and training system, as long life uninterrupted process and offers the outlines of further socio-economic construction of our civilization.

As the conclusions, we can formulate the following thesis.

1. Development of reciprocally complimentary system of education and training should take into consideration both autopoetic and objective process of consciousness evolution and handmade processes of "getting in line” corresponding POCs in process of education and training.
2. For forming the authentic representatives of RS – Noble Men, principally different programs of forming POCs are needed, contrary to modern ones forming “millions of little tyrants” according to very accurate K.Popper's expression.
3. Objective process of consciousness evolution brought about final crash of ideological and economic paradigms of fascism, socialism and liberalism.
4. In the base of future socio-economic structure of society the ideological economic paradigm of humanism will lie, the main elements of which will become:

- reformation of modern hierarch principles of public institutions structures into the form of cooperation and interaction of "communities of communities";
- meritocratic principles of RS formation will provide increasingly complete execution of truly democratic principle "gaining of RS – gaining of GS”;
- the forms of individual and collective private property will naturally transform into the form of associated private property of citizens, which will provide (following the studies of J.M Keyns and program theses of German Ch.D.P.) full and unconditional satisfaction of all human beings vital needs on the Planet by the fact of their birth (as it is guaranteed for billion years to all other biological species on Earth);
- Marx's money, as self growing value will be pushed out by Gesell's money with demurrage, which eliminates financial capital, parasitizing on labor of all people, turning it into market tools for vital consumption economy development.

5. Objectively being formed in the world Humanistic Socio-Economic Formation can be built solely by the people of new way of thinking, who should be educated and trained by the new education system. This is realistic and achievable.

6. If these conclusions and results will not be taken into consideration at the point of bifurcation of modern civilization, we shall face the long period of renaissance after the fall into the modern medieval relations of beast instincts and law of the strongman, which already had been in the human history, after autopoetic demolition of Greek-Roman civilization. All is in the hands of scientists, who have to make maximum to avoid negative scenario of outcome from the point of bifurcation and appeal to Humanity to move towards the heights of humanistic formation, acting as new RS – Noble Men.

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