World Futures: The Journal of New Paradigm Research
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/gwof20

Transition to Crisis-Free Development: A Myth or Reality?

Valentina Bondarenko[a]
[a] Russian Academy of Sciences, Institute of Economics and International N. D. Kondratieff Foundation, Moscow, Russia
Published online: 18 Apr 2014.

To cite this article: Valentina Bondarenko (2014) Transition to Crisis-Free Development: A Myth or Reality?, World Futures: The Journal of New Paradigm Research, 70:2, 93-119

To link to this article: http://dx.doi.org/10.1080/02604027.2014.894863

World Futures, 70: 93–119, 2014

ISSN: 0260-4027 print / 1556-1844 online
DOI: 10.1080/02604027.2014.894863

Routledge
Taylor & Francis Group

TRANSITION TO CRISIS-FREE DEVELOPMENT: A MYTH OR REALITY?

VALENTINA BONDARENKO
Russian Academy of Sciences, Institute of Economics and International N. D. Kondratieff Foundation, Moscow, Russia

This article substantiates the thesis that the outlines of the future and present can be made visible and comprehensible by applying a new methodology for cognition of regularities in the human community development. This methodology made it possible to define that there have been and are only two paradigms of the human system development in the entire multicentury course of the human community development. Cycles, crises, chaos, and all negative phenomena are nothing else but natural products of the second, indirect paradigm of development. The new model of life organization at each local level is at the same time the former, first development paradigm, based on the direct interconnection between production and consumption of specific human beings, but raised onto the new high-tech level. Practical realization of this model is the only feasible precondition for the transition to sustainable and crisis-free development.

KEYWORDS: Coordination of interests, efficiency criteria, new methodology of cognition, new model of life organization objective, specific human being, sustainable development, systemic crisis, time, two development paradigms.

INTRODUCTION

It was quite long ago that great thinkers and scientists in different parts of the globe started to think on how to transform the world organization in order to improve ecology, get rid of poverty, resolve the food problem, eliminate any possibility of periodically occurring wars, resolve the great mass of other problems, and have the crises shattering all foundations of human existence be gone into the past forever. Many widely known academics focused their research on resolution of these most difficult problems. We were most strongly impressed by the works of Ervin Laszlo, the leading author of *Goals for Mankind. A Report to the Club of Rome on the New Horizons of Global Community* (Laszlo et al. 1977). His position

Address correspondence to Valentina Bondarenko, Russian Academy of Sciences, Institute of Economics, 32 Nakhimovsky prosp, Moscow 117218, Russia. E-mail: bondarenko@inecon.ru

Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/gwof.

is generally very close to ours, and we shall try to highlight this point here in more detail.

The global systemic crisis, hitting all facets of the human community's life, is becoming the ever more profound and wider in scope. This fact has been recognized by all summits of G8, economic forums in Davos, Saint-Petersburg, and other regions of the world, and G20 summits including the latest one that took place on September 5–6, 2013 in Saint-Petersburg, Russia. The panic, occurring periodically in the world markets (including the market of raw materials), every time is generated by publication of negative data on all regions of the world (i.e., the United States, Europe, and China).

For example, in 2012–2013 many countries demonstrated their unstableness and omnipresent worsening of the economic situation. In particular, American market indices were melted down by the unfavorable statistics of the labor market, where the job-generation rates lag behind the desired parameters. While 200–250 thousand new jobs were required to be created every month during a many-month period of time, in reality the generated number was much less than needed—in August 2013, only 169,000. Therefore the level of unemployment in the United States remains very high (7.3%). The growth rates of the global and U.S. economies are slowing down, and this circumstance is being aggravated by the debt crisis in the Euro-zone, which is moving steadily to deep recession.

China's economy, too, demonstrates the slower growth rates. In April 2012, industrial production in China slowed down abruptly— its annual growth rate, 9.3%, was the lowest in the last three years. In the first four months of 2012 investments in fixed capital grew just by 20.2%, which is the worst result for China's economy in the last 10 years, while the growth of retail trade and export slowed down as well. Investors and economists once again started to talk of the threat of China's "hard landing" and to call for resolute measures that would stimulate economic growth. But, as experts in China's economy suggest, in order to become "an engine of global economy," the Sub-Celestial first needs to make its people wealthy. However, in this case China would lose its main advantage—that is, cheap labor.

India, with its second largest population and tenth biggest economy in the world, by making the stake at development of the innovation sector, also has faced the crisis situation. In the second quarter of 2013 its Gross Domestic Product (GDP) growth rates amounted to 4.4% instead the expected 4.8% per year, while the Indian Rupee exchange rate vis-à-vis the USD dropped to an historical minimum. Only within one month of August 2013 the Rupee went down in value by 8.1%. Meanwhile, according to some expert assessments, the crisis in India can catalyze a new recession in the entire world. Corruption, inflation, expensive credit, and paralysis of authorities result in the outflow of capital and termination of business projects. In particular, this applies to strategic sectors, where the state actively regulates the process, while in the less regulated spheres (e.g., IT and pharmacology) the situation is more favorable. In this sense India differs strongly from China, where exactly the sectors with a strong presence of the state and use of cheap labor drive the progress of national economy.

Another key emerging economy, Brazil, is sliding down: its growth rates as forecasted by the world's leading banks for 2013 to have been reduced to 2% or even 1.6%

The year 2013 continues to demonstrate deterioration of the global market situation, the growing crisis-ridden global climate, and the further reduction of growth rates. Japan resorted to additional cash emission although today many experts in the world warn that such government measure of support would not so much prevent growth of the crisis phenomena but rather result in appearance of new "bubbles" in the market and hence new shocks in the future. As predicted by the analytical service of *The Economist* journal, in 2013 the global GDP will grow by 2.9% while in 2012 it grew by 3%, and in 2011—by 3.8% and in 2010 by 5.1%. The trend is quite an unfavorable one (Baranikas 2013). That is, no way out of the lingering crisis is seen anywhere.

In Russia, too, the Ministry of Economic Development cut down the major economic forecasts and in September 2013 the head of this agency stated that by results of 2013 Russia's GDP growth rate (1.8%) would be unsatisfactory. Having said so, the minister described the current economic situation as the worst since the global crisis of 2008. Another obvious fact is that investments in the economy are sliding down, the industrial production growth is expressed in negative indices, the technological progress is nil, the financial and banking system does not function, the outflow of capital as well as foreign debt are growing, and the central bank reserves are diminishing—that is, aggravation of the economic situation is evident along all vectors.

Basing on the rapid slow-down of all processes, the RF Ministry of Economic Development has recognized officially that the Russian economy is crawling into recession, which can bring wage-freeze and growth of unemployment for the bigger part of the population. What is even more important, the Ministry has recognized that it does not see a possibility to reverse this trend and that no solutions for any of the problems have been found.

Many economists hold the view that all the current developments in the world serve as ample evidence of the already surged second wave of the crisis. However, the monetary means being used (as they were before) to resolve the problem—such as printing of money and its investment in all sorts of assets (shares, raw resources, or real-estate property) for resale purposes are prevailing over investments in the fixed capital, and this latter circumstance would result in the further slow-down of growth. That is, the old models designed to counter the crisis by monetary injections into the economy work no longer, and hence this mode, too, is not an anti-crisis remedy that would eliminate the prime cause of the crisis. Moreover, on the one hand, it is recognized that at the present time no serious discussion is underway on what must be done for elimination of the crisis. On the other hand, since the latest World Economic Forum in Davos and through to the G20 summit of September 2013 in St. Petersburg, we hear the ever more loudly voiced arguments that the crisis of 2008 and its current second wave signify the crisis of the contemporary economic model. In such circumstances, unless the root-cause of the economic crisis is identified, any system of institutes and mechanisms

designed to remove tensions during realizations of anti-crisis measures would be inefficient, to say the least.

So, we should state the fact that now, on the one hand, the rhetoric of the academic discourse has changed and the discussion moved from partial problems (to enhance, accelerate, modernize, reform, etc.) to comprehensive problems. Now, as never before, it becomes necessary to have a visionary view of the current crisis situation in the world and to undertake a search of new models of economic evolution and new concepts of economic development. However, in order to proceed to a new model of economic development, it is necessary to have a theoretically verified and practically feasible idea of the given model.

On the other hand, we should also admit that the global systemic crisis growing in scale applies to all facets of human-community life, and nobody knows what its in-depth objective causes are and where the way out is.

So, the formula to overcome the crisis is unknown and this fact ever more often motivates us to turn to history and look for an answer therein. The findings, however, are not at all encouraging. For example, Dr. Jeffrey Sommers, Professor of political economy and government policy at the University of Wisconsin–Milwaukee, USA, and participant in the first Moscow Economic Forum of March 2013, while discussing the measures of strict saving in the circumstances of looming recession in Russia, says that his biggest concern about such measures can be described by Mark Twain's words: "History does not repeat itself, but it does rhyme a lot." Therefore, says Sommers, he is afraid that the measures can have an adverse result, as the last time strict economizing was applied in Germany, Italy, and Japan, in the period between the first and second world wars—which resulted in fascism. Sommers does not insist that exactly the same can happen now, but he suggests that the outcome can be quite unpleasant. He notes that economizing may not be imposed on people all the time—ultimately, they will react, and nobody knows what kind of reaction that would be (quoted in Astashenkov 2013).

Another American economist, Paul Farrell, and some others, while trying to find a formula to counter the crisis, openly offer a rather untraditional way out from the recession. He suggests that the world can be saved from the crisis by nothing but a new big war. According to Farrell, wars stimulate economy, and war helped the United States to get out from the most serious economic collapse of the past century, the Great Depression (see http:subscribe.ru//archive/media.today.kpcover/201304/21080044.html).

Inter alia, there are many opponents of this theory, because a big war would have catastrophic consequences, including the economic ones, that there could be no talk about any growth (Crasnova 2013). The tough confrontation between the two positions was made visible at the G20 summit in St. Petersburg. The issues of the current situation in the Middle East and, in particular, preparation of U.S. armed action against Syria made the main theme of the summit, while the major question—what should be done to overcome the crisis—was left unanswered.

Such understanding of the causes of the crisis is based on what the Russian Federation President Vladimir Putin said at the working meeting of the G20 Summit on September 6, 2013:

> Our experts shared the unanimous view that substantial reduction in the volumes of long-term investments became a key factor of the slower economic growth and the stagnation in the sphere of unemployment. And, we see a whole complex of problems, such as: fragmentation of the European Union's banking system, shrinking of the fiscal space, reduction of credit potentials of development banks and toughening of financial leverage. Exactly for these reasons, Russia set forth a proposal to channel the collective efforts to the search of new sources for financing of investments. (Russia G20 website 2013)

Exactly because of the methodological vacuum we do not understand the objective root-causes of the crisis and cannot see a way out. Therefore we cannot find the means to overcome it and to proceed to the evolutional crisis-free road, to transition from the asocial model of economic development to adoption and realization of the economic growth concept and strategy oriented to priority development of the real sector as well as development of humans as such and their qualities.

In his introduction to Grzegorz W. Kolodko's 2009 book *Globalization, Transformation, Crisis—What's Next?*, Rouslan Grinberg notes: "Economics and sociology arrived to one shared conclusion: organization and functioning of the surrounding world is the ever less comprehensible, as it becomes the ever more illogical and hence uncertain" (Kolodko 2011, 9).

Hence, the question being asked these days by many scientists and scholars: "Are the world civilization development crisis, wars, terrorism as well as manmade and natural disasters to be seen as temporary phenomena and casual events, or rather as a chain of causal-and-effect relations being a result caused by the effects of profound laws, which apply to nature and society and which lay in the basis of co-evolutional development of the world system?"

Therefore, the main precondition to proceed to crisis-free development is to receive and master knowledge on objective causes of the global crisis, to find access ways to the crisis-free development road and to understand the implications of each decision being taken. The time for development by the trial-and-error method has passed irreversibly.

NEW METHODOLOGY FOR COGNITION OF REGULARITIES IN THE HUMAN COMMUNITY DEVELOPMENT

In the course of thirty years we, too, have been conducting research aimed at identification of objective cases for the crisis condition in the human system development as well as at visualization of the future. To this effect, it was required to do research at the visionary level, and as a result the new methodology was constructed for cognition of regularities in the human system development.

The novelty of the methodology, being formed for identification and cognition of logical laws in development of countries, states and major units whether addressed through the prism of civilization specifics, or in the complex dynamics of long-term historical evolution, or at the local and global levels, or the entire human community as an integral system is that all these phenomena would be

considered, studied, researched, and analyzed through the prism of attainment of the sole ultimate goal in their development. This is a system approach.

It should be noted at this point that many authors of reports for the Roman club sought to formulate the global community development goal and proceeding from that to offer new proposals for reorganization of international order (RIO) as well as to find a new perfect organization of human life. For example, authors of the third report for the Roman club, basing on universal human values, identified the main goal of the global community (that would provide equal opportunities within and across countries) as to provide dignified life and moderate wealth for all citizens of the world (Tinbergen 1976). However, the hopes that the voice of these authors would be heard turned out to be futile.

Another report that analyzed the global problems through the system of goals and values and thus made a cardinal transition from the qualitative to quantitative analysis was entitled as "Goals for Humanity." The forefront was taken over by the "new humanism" concep—the idea on the primary importance of personal human qualities that would provide for "human revolution," "revolution of consciousness," and transformation of society. The report was as well based on the global solidarity concept, by which the norms of human behavior and norms of government policy would define the "new standard of humanism." In view of the authors led by Ervin Laszlo (internationally known professor of philosophy, system sciences, and political science; honorary doctor of several universities; program director at the UN Institute for Learning and Studies; and the president of Vienna Academy of Futurology), to this end it was necessary to formulate the global development goals and introduce them to the world public.

Guided by the set task, Ervin Laszlo and his team analyzed, both at the national and global levels, the "goal atlas" of different regions, countries, churches, multinational corporations, the UN and other international organizations, and polled a maximal possible number of people from different spheres and vectors of human activities about the four global goals, such as: (1) global security (i.e., to stop the arms race, rule out wars and conflicts, and repudiate violence); (2) to resolve the food problem on the global scale to eliminate malnutrition and build a global system that would make it possible to satisfy food needs of all people on the planet; (3) to control energy- and raw-resource consumption globally and thus to proceed to rational and ecologically safe energy consumption, control of technologies, and economically efficient nature management; and (4) to orient global development to qualitative growth—that is, to enhance life quality and social justice in distribution of material and immaterial goods (Laszlo et al. 1977).

Proceeding from these objectives, the report authors offered several "world solidarity revolution scenarios" in which the main role was assigned for different combinations of religious communities, intellectual groups, political leaders, government circles, businesspeople, and so on. The authors hope that academics, religious figures, and business representatives of one country could render influence on their respective counterparts in other countries, and after that it would be possible for "all together" to consider critical problems and to find common paths to their resolution. Regrettably, this did not happen so far.

We chose to pursue a somewhat different method to define an objective and initially preset development goal. In the given case, the ultimate goal is the one that cannot become a means to attain a goal of the higher order and that at the same time is the beginning (reverse connection) of the qualitatively new spiral in development of the system as a whole and each of its sub-systems.

Therefore, while any social, economic, and political system can be viewed through the prism of realization of the ultimate goal, such goal would be of universal planetary or global nature. Hence, if the existing practice of social, economic, and political development is juxtaposed with the theoretically identified ultimate goal, it would be possible to identify the redundant or missing chains in the mechanism for realization of the objective and to define the quickest and thus the most efficient and stable way for its realization and development. Such theoretically objective rather than empirically invented approach helped to find that the ultimate goal in development of the social and economic system in any country, in any civilization, or on the planetary scale must be and is nothing else but: the concrete Human Being with multiple variety of material and spiritual needs; creation of opportunities for equal and free access to the indefinite variety of goods; and satisfaction of such human needs.

If any social, economic, and political system can be viewed through the prism of realization of the ultimate goal, then such a goal would be of universal planetary or global nature. Hence, if the existing practice of socioeconomic and political development in any country of the world is juxtaposed with the theoretically outlined ultimate goal, it would be possible to identify the redundant or missing chains in the mechanism for realization of the goal and to define the quickest and thus the most efficient and stable way for its realization.

Therefore, the essence of the new methodological tool-kit and its scientific novelty are represented by the fact that it is based on the found objective target of the human community development. In order to arrive at this conclusion, it was required not only to define the goal of the human system development, but to identify the final objective that cannot be a sub-goal of a higher goal within the mundane human existence, but represents the objective reason of the human system development—and then to understand that each specific human being, each individual does not live in order to provide for GDP growth or to manufacture the biggest possible amount of weapons for self-annihilation. A person must and can live for the purpose of developing and realizing maximally his/her spiritual and intellectual potential while at the same time raising the level of consciousness and physical perfection.

In other words, each specific human individual in his/her development must and can attain the Supreme Reason or to reach the image and liking of the Creator. Otherwise, development would follow a different, entirely opposite scenario (i.e., the blind-alley option: retrograde development for the purpose of starting everything anew, or a catastrophic finish, the apocalypse). Let us now see what happens in practice. We live in the time of informational and gene technologies, virtual reality, bio-computers made from DNA molecules, and so on—that is, in the time offering the possibility to link the human mind together with a computer and build the human–machine cybernetic organism, the so-called cyborg. The

brand-new self-learning robots threaten to replace people, who would lag behind the machines even in the sphere of intellectual activities. People face a real danger of becoming the slaves of machines. Even now some technologies have been created that can very well work without human interference. For example, the IBM Corporation is working on the Smart City project providing for interaction of a municipal intellectual system without involvement of the human mind.

A most important point to be understood is that today many countries, including Russia, have started to develop their national innovative systems, the arsenal of which includes the R&D of the sixth technological structure, nano-technologies, biotechnologies, fantastic information technologies, and security-systems technologies. However, there is no guarantee that these achievements would not be used for destructive purposes.

For example, R&D of new, even more powerful and dangerous weapons are underway these days—especially in the sphere of nano-technologies, where scientists work on creating the microscopic robots that would be able to perform any actions and meanwhile continuously reproduce their own copies (by the same principle as proliferation of living cells). On the other hand, while confrontation between the two superpowers is gone into the past, today we face such new threats as terrorism. According to mass media reports, terrorist leaders and ideologues, using advanced technologies and acquiring the most advanced weaponry, cherish their plans to use mass destruction weapons, which include, among others, miniature atomic bombs. Closely associated with terrorists, criminal groups also apply the most advanced science-tech achievements in their activities.

Modern bio-computers can force human cells to communicate independently with one another so that this would pave the way to construction of their complex configurations. Hence, to overcome and eliminate crises and all problems facing the government, business and society at large would only be possible if all decisions in the end provide for continuous, evolutional, and irreversible movement toward attainment of a development objective. Only in such a case will it be possible to find a way for sustainable development and practical realization of the "Millennium Development Goals" (by our logic—the sub-goals of the higher objective), announced by the UN as the guiding landmarks for all nations of the Earth.

Held in Rio de Janeiro, the UN Conference on Environment and Development of 1992 formulated the major ideas on sustainable development of humankind. The sustainable development concept fundamentally differed from traditional views and economic practices in the sense that it contained an integral approach to development as an overall process.At that time the sustainable development was defined schematically as a "triune" interaction process of "nature–population–economy." However, for this classical triad to be viable, its emphases must be modified in the context of our visionary approach as "goal–sustainable– development." The sustainable and steadfast movement ahead (i.e., development) must and can be only provided in relation to nothing else but the objectively set goal.

Therefore, whether we like it or not, society should develop to create, for any human individual, the area of habitation, in which equal and free access to all diversified benefits of civilization would be available—not in order to reach a new

level of "consumeralism" or supremacy of technologies over humans, but in order to attain the final objective—let humans become perfect. This is the human being's mission on Earth, and it must be fulfilled!

The second component of the new methodological toolkit—integrity, systemic nature, and a cross-disciplinary approach—proceeds from the basis that the world is single, the laws of nature and society are in unity, while the world is an integral system and can be cognized only with unification of all scientific and spiritual knowledge into some unified, systemic, integral, and cross-disciplinary (or, rather, trans-disciplinary) knowledge. Therefore, all these elements had to be unified systemically through identification of the target function of development of the entire system and any part in any section (civilization-related, formational, national, confessional, territorial, natural-scientific, socioeconomic, sociocultural, political, organizational, etc.), and irrespectively of whatever development model (neo-Liberal, Keynesian, totalitarian, or a mixture thereof) would be prevailing. Only through such knowledge one would understand that the financial, economic, social, organizational, science-tech, and, as a whole, systemic crisis in the world as well as all existing negative phenomena are links of the same chain. Therefore the decision, too, must be integral, systemic, and unified for the entire world, but the interests of all people living on the planet must be taken into account.

It should be said for the sake of truth that it was long ago that scientists learned to borrow or combine different disciplines in cognition of some or other processes. However, spiritual knowledge is a different matter, but in this sphere, too, some progress is evident. For example, Fritjof Capra, an American physicist of Austrian origin, in his book *The Tao of Physics* and subtitled as "An Exploration of Parallels Between Modern Physics and Eastern Mysticism" (1975) as well as in other bestseller works, states that both physics and metaphysics invariably result in one and the same knowledge. All his works contain the same subtext: "there are implicit connections within everything." Seeking to find a scientific answer to the mystery of life, Fritjof Capra, basing his work on the positions of the theory of systems, tries to synthesize the latest attainments and discoveries made in physics, mathematics, biology, sociology, and other disciplines with spiritual knowledge of the East.

The novelty of the newly articulated methodology for identification and cognition of logical laws in development of social systems is seen as well in the selection of the main indicator that would help to express all the multiple diversity of processes and to detach the essence from the phenomena as shown by the case studies.

First, such indexes as GDP, Gross National Product (GNP), human potential development index, and so on, do not allow one to identify the logic, the essence, the objectivity and the direction of the whole variety of processes, because the rate of change in economic reality is higher than the rate of its study. Second, as noted by contemporary analysts, reliability of world statistics is quite doubtful. Third, the bigger part of statistical data, being considered today in the study of economic developments, is a certain extrapolation of basic parameters on the basis of certain models. However, most of these models were developed during the "boom" in math programming from the late 1950s through to the early 1970s. Therefore, they are

futile to describe the phenomenon of the contemporary economy in any relevant terms—at least, because the contemporary economic growth rates do not fit within the small-error area of such models. Even the authors of reports for the Roman Club noted the discovery made in the course of computer simulation: any model would unavoidably reflect the view, ideas, and preferences of its developers, and this would be visible as early as in selection of thereto laid information. Hence, such a model would not be a means helping to cognize objective processes or cause–effect relations. And, it is known that to predict the future is a job thankless and sometimes even dangerous, because negative scenarios and therein-laid mental forms tend to come true. Meanwhile, science has proven that thoughts are material and can be used in order to create, cure, increase crops, improve weather, and so on, but also to kill or to force humans to commit inhuman deeds including crimes.

In other words, today—as never before—the existing model of human community development (with all transformations occurred during its existence) runs counter to achievements in science and technology. Today humankind stands at the brink of self-annihilation with the help of its own intellectual R&D. Meanwhile, however, the human society is again presented as probabilistic, not strictly practicable and controllable, highly uncertain, and totally incompatible with the concept of sustainable growth (proclaimed at the highest possible levels by the UN and other organizations), with the Millennium Declaration, as well as with the strategy and principles for building information and civil society. On the other hand, scientific knowledge, built-up on the platform of analysis and generalization of empirical data with the help of a huge mass of information, indexes and calculations by the pattern "from the past through the present to the future," fails to reveal the true picture of the world and to reflect the reality. Hence, we need another paradigm, another index, and another speed of information inflow. In short, we need a new methodology for cognition of regularities in development of the human community. Hence the conclusion: the need of a new approach to the study and identification of the laws of human existence, in the new methodology for cognition of regularities in development of the human system, as well as in a new measure of all processes is ripe and pressing as never before.

These examples have been drawn in order to illustrate how big the responsibility is for the consequences of the resolutions being passed with regard to formation of the global society and its institutions, especially, if/when such resolutions do not take into account the effects of profound general laws laid in the basis of the human system development. Therefore, to create conditions for evolutional development of a societal system vis-à-vis the objective and to bring the whole of humankind into one and the same space of time appears to be the main task, as its fulfillment would make it possible to overt the crisis in development of the global society and to bring all knowledge and theories into the single complex.

The new methodology of cognition gives an entirely new interpretation to such theories as evolution of machines and evolution of human beings and their consciousness. From the Neolith epoch to the present, evolution of machines has passed (with periodic decelerations and accelerations) from primitive tools of

labor through to advanced complex machine systems for production of various products on the basis of cal-technologies allowing us to continuously improve and sustain the life cycle of these products and to arrange a more orderly technological interaction of its developers, manufacturers, as well as trading and service organizations. The second industrial revolution, started in the mid-twentieth century and going on now, is connected with replacement of humans by computers in processing information on technological coupling of machines and regulating of technological regimes of their operation. Evolution of machines is featured not only by reduction of time for manufacturing, transportation, storage, and service of the product unit, but is also synchronized between the links and at junctures of different stages of the product life cycle.

Evolution of the human individual and his/her consciousness is an entirely different matter. As evidenced above, the time between emergence and satisfaction of the need does not shrink, but gets longer for most of the population in Russia and the whole world. Therefore, the end-consumption product, manufactured by the super-modern technological chain of machines and people, synchronized in time and space, would be demanded only by the smaller part of the population. For the rest, the end-consumption product either would not be manufactured, or would be lost—together with all kinds of resources expended for manufacturing purposes. So, on the one side we see unproductive manufacturing of unconsumed product, and on the other side—unsatisfied need. But, the unsatisfied need would not leave a room for a higher-level need and therefore would not create any purpose for production. The circle has closed. Hence, the reverse connection to the whole machines-and-people technological link starts evidently and exactly from the end consumer and proceeds from his/her consciousness. Hence the conclusion: today we evidence evolution of machines, on the one hand, and involution of human individuals and their consciousness, on the other. In such circumstances, human community development would quite probably follow the scenario, in which the major role would be given to artificial intellect, while the human would become its annex and/or slave. In our view, direct (evolution) and reverse (involution) processes would take place unless we stop experimenting with our development by means of "trials and errors" but rather cognize the development regularities and provide for accelerated development of the human community toward the objective.

We may conclude that in terms of a systemic idea of such factors as the human community development condition, the selected means to reach the goal and the mechanism for its realization, such universal index can be served by time. Today human knowledge, growing like an avalanche, immediately becomes outdated. By the moment when conclusions are drawn, they already do not reflect the reality because the picture of the world has changed entirely.

So, the third provision of the new methodology means that we identified the only possible index to measure and juxtapose all processes and phenomena—that is, time. By applying the latter, we can measure and juxtapose something immeasurable or incomparable in other indices, and, what is most important, to correlate all facets of human and societal life with the target ideal, and to find out what step of human progress they have reached in relation to the objective.

This can be attained only when knowledge is obtained on the basis of the cybernetic, system, and cross-disciplinary approach to consideration of the actual reality, and would not proceed from the empiric analysis, a theory not built thereupon by the pattern "from the past to the present and future," but rather from the theoretical approach "from the future to the present and past." We must know a-priori what particular social, economic, and political structures and technological systems are relevant to this goal and what kind of mechanism is available for its realization. Provided that the relevance of social, economic, and political structures, the technological system, and the mechanism for realization of the goal is found, the nearer we come to the goal and the more rapid pace of the processes. Therefore, the time, passing between appearance of a material and a spiritual need of each specific human individual and the society at large, on the one hand, and satisfaction of such needs, on the other, would become the only criteria of efficiency in attainment of the ultimate goal.

Fourth and finally, the new methodological toolkit contains the single criteria of efficiency of human system development—the time between the need to approach realization of the single objective of development, and the reality, in which society (in whatever the section) and each specific individual are placed in relation to such an objective. If *the time between* arising and satisfaction of a specific individual's need tends to reduce continuously and evolutionally, as well as gravitates to zero, then the human system develops in relation to the objective sustainably and efficiently. This conclusion provides us with the absolutely new understanding of human system development. Application of this criteria helps to control time between arising and satisfaction of any need of any specific individual. To control time means to control development, so to ensure evolutional and irreversible reduction and approach the criteria value, equal to zero. Only, in this case, the human system would start developing sustainably in relation to the objective in the interests of any specific human individual.

FUNDAMENTAL CONCLUSIONS DRAWN THROUGH APPLICATION OF THE NEW METHODOLOGY OF COGNITION

In the theoretical plane of the new methodology, the time between arising of a need and its satisfaction in terms of the goal attainment is *the vector of time (or axis of time) from infinity to zero* (Figure 1).

Development of humankind and its different structures in whatever the section—through to a specific human individual—is distributed along this vector in different points, and at any given moment the time between arising and satisfaction of a need can reduce or grow, thus approaching or moving away from the goal. So, we have reached an understanding of the fact that the time between appearance of the need of society and each human individual, on the one hand, and satisfaction thereof, on the other hand, on the single time vector of the human community's development can ever more rapidly approach the point of zero. Therefore, communication and interconnection between people as producers and consumers of material and spiritual goods can take place at the level of thought (i.e., instantaneously). Having merged together, these thoughts would form the

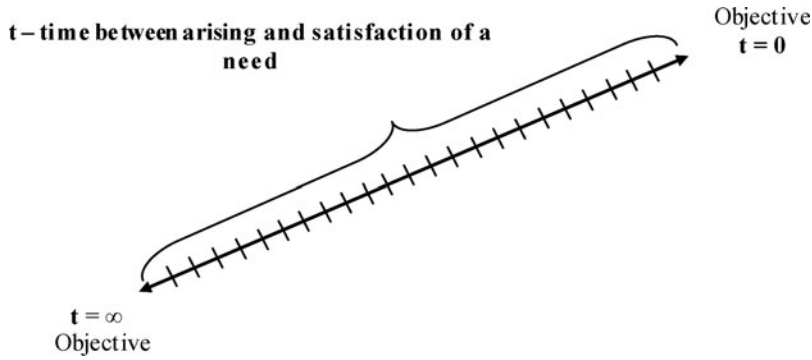

Figure 1. Vector (axis) of time.

unified mind of all people of the Earth. Hence the conclusion that should the community be able to cognize the logical laws of its own development, then it will be able to understand that humankind can reach the highest stage in development of the Earth biosphere, when a human thought becomes a "physical planetary force" (Vernadskiy 1988). But the time vector represents the linear vision of the problem, which can be discussed, if the human community's life is considered in statics, as of the given moment of time. In reality, in dynamics, everything takes place much more complexly. Today the time between arising and satisfaction of needs is different for different communities. Moreover, the processes of change in time can be positive or negative, cyclical and undulated, direct and reverse. If these processes are considered not in relation to communities but to a specific individual, then the numerical value of this diversity would be most probably determined by digital values in multiple degrees. So, every human individual lives in a kind of his/her own sphere, under the effect of his/her own centrifugal and centripetal forces, within some Brownian motion, in his/her own microcosm that does not coincide with the microcosm of others (Figure 2). This would produce a peculiar hyper-tetrahedron of the habitation area, and each specific human individual is situated in the center thereof. Vertexes of this hyper-tetrahedron would be equidistant from the center, when the whole of humankind happens to be in one and the same space of time, and when the time between arising and satisfaction of a need will be equal for all people. Such an outcome can be only attained if equal access to the maximal variety of goods is available.

So, if civilizations, nations, countries, small and large communities, as well as separate individuals stay in different linear and spherical spaces of time, they would have different levels of consciousness and would never be able to conciliate their interests or understand one another. Exactly this circumstance is the cause generating the origination and aggravation of all the troubles of humankind. Hence, the crisis in development of global civilization, wars, terrorism, and man-made and natural disasters are a result caused by the effect of profound laws common to nature and society. Moreover, as long as people stay in different linear and spherical spaces of time, it will appear that the planet hosts many local civilizations, which

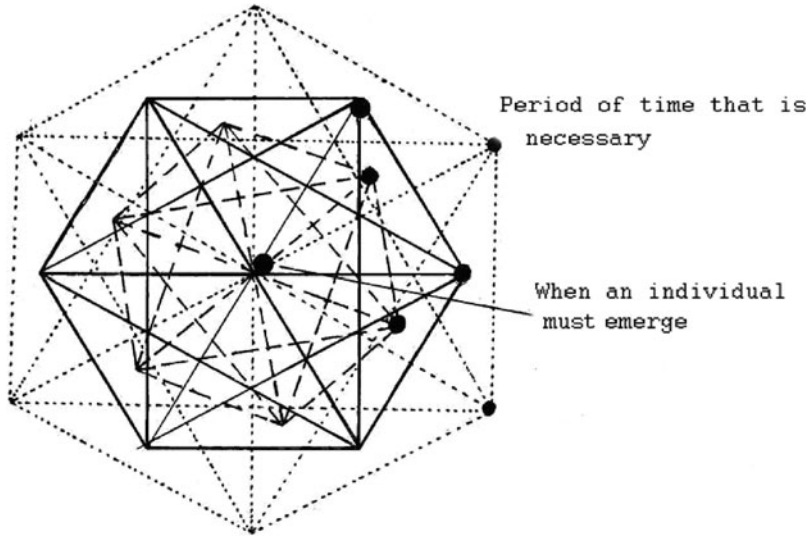

Figure 2. Microcosm of human individual.

are different from one another and which were described in length by Spengler and Huntington (Spengler 1998; Huntington 1996).

Therefore, to resolve all the problems incurred in society's development and to modernize the latter on the basis of R&D and realization of advanced technologies of the twenty-first century would be possible provided only that the road is found that in the end will provide for continuous, evolutional, irreversible, and simultaneous attainment of the objectively set development goal for each concrete human person with due regard of his/her individual interests.

So, with the help of our new methodology for cognition of the logical laws in development of socium, we receive knowledge that would be more advanced than the actual reality. Knowing the future and proceeding from the purpose-oriented predetermination, one would be able to resolve the current problems with the minimum of all sorts of costs and resources and within the shortest periods of time, as well as to travel in the distant and near past of the world history of human development and, based on the flawlessly verified theoretical platform of the new methodology, to provide an objective explanation of the reasons for birth, growth, development, decay, collapse, and transformation of human communities, historical dynamics of states and revolutions, wars and hegemonies, cycles and trends, as well as world systems and civilizations. This is qualified as theoretical history. In our view, the offered new methodology of cognition can resolve the dispute underway among the absolute majority of historians, philosophers, and sociologists rejecting any possibility of theoretical cognition, and the minority seeking to generate knowledge on social and historical realities in the same mode as the natural-science knowledge is generated—which was an aspiration of Auguste Comte (2003) and Herbert Spencer (1885).

Like Newton's celestial mechanics, this methodology can provide precise theoretical knowledge of an absolutely perfect self-governing system and meanwhile become a kind of scientific knowledge itself.

This methodology and the results of its applications are described in detail in such monographs as *Forecasting the Future: A New Paradigm* (Bondarenko 2008a) and *Crisis-Free Development—A Myth or a Logical Reality* published by the "Nauka" Publishing House (Bondarenko 2012) as well as in numerous articles published in Russia and other countries (Bondarenko 2008b, 2009a, 2009b, 2009c, 2011a, 2011b).

As a result, the methodological toolkit made it possible:

- to surpass the limits of the entire human system and to see it as a unified whole of "past-present-future" in relation to the objectively set development goal;
- not to rely on empirical and subjective data of the past and present; and
- to comprehend the objective picture of human system development depending on the positive (sustainable) or negative (unsustainable) orientation to realization of the unified, single objective.

This methodological toolkit lets us see that in the whole course of many centuries-long development of the human community, there have been only the two paradigms of human system development:

- the first one proving that there is a direct connection between production and consumption; and
- the second one proving that production and consumption are interconnected indirectly.

The schematic outlay of human community development, presented by Figure 3, demonstrates when and how each development paradigm formed, is forming, and can form in the future along or around the axis of time equal to zero, between the moments of arising and satisfaction of a need.

According to this outlay, the entire history of humankind can be divided in three phases.

Phase 1 is featured by prevalence of the *first development paradigm* expressed in direct connection between production and consumption.

Everything that was produced at that level of manual labor being mastered by humankind was consumed thereby. Hence the time between the arising and satisfaction of a specific individual's need was minimal. That was the pre-industrial type of production—any manufacturer was producing goods for himself and, by order, for specific consumers at the household level (craftsmen).

Advent of primitive technologies, division of labor, market, class of brokers (merchants), and the universal equivalent to exchange with results of such labor—that is, money, as well as the gradual territorial expansion and development of foreign trade—all these resulted in transformation of direct interconnection between production and consumption into an indirect one. Thus the *second*

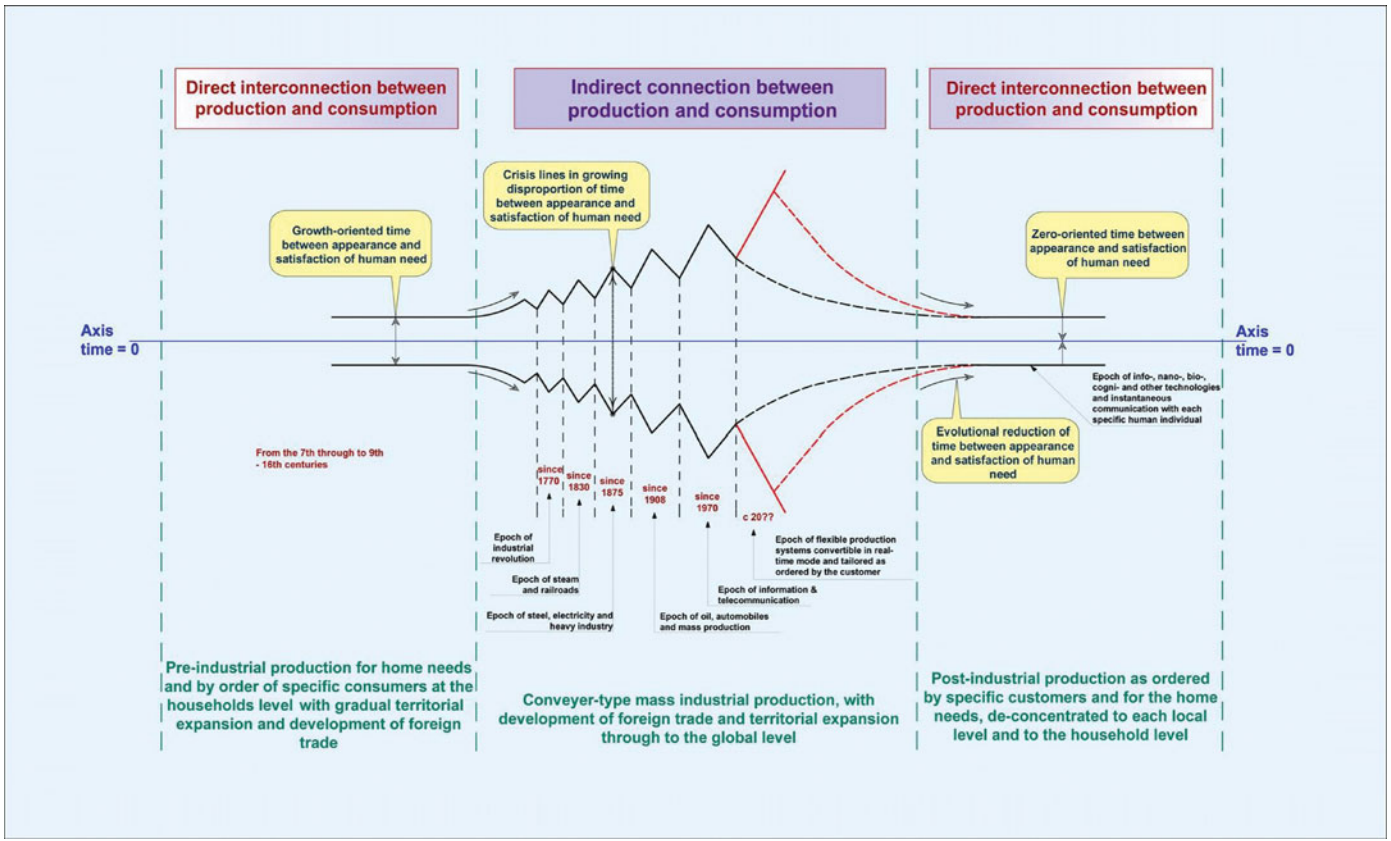

Figure 3. Schematic outlay of human community development.

development paradigm was taking shape, and its development in time and space was accelerated by transition to the industrial type of development.

The industrial revolution, epochs of steam and railroads, steel, electricity and heavy industry, oil, automobile, and mass commodity production entailed building the consumer-communication infrastructure including the network of roads, ports, shops (from small shops through to grand shopping centers and highly mechanized warehouses), radio-technical, electric and information networks, and so on. Those were the major landmarks that evidenced formation of mass, conveyer-type industrial production (accompanied by development of domestic and foreign trade as well as territorial expansion through to the global level) and mass consumption. Production of such type is oriented to satisfy demand and the needs of abstract end consumers through the elemental, archaic, mediated by longer time and space and market-based form of communication with any specific human individual.

In such circumstances uncertainty of production resulted in appearance, then global growth of disproportion, and then entire de-synchronization between the time of production and the time for circulation of goods/money. The dynamic of movement of material and real factors of production, despite their multiply grown volume, happened to be torn far apart from their monetary form, both the real and (especially) the virtual. Monetary methods of coping with a financial crisis made this gap in the movement of real products and money even wider and contribute to the further growth of disproportion between the time for production and time for circulation of commodities and money. As a chain reaction, the financial crisis is growing ever more rapidly to the level of systemic crisis. Therefore, it is clear why philosophers, economists, and political scientists, proceeding from the works written on the base of empirical information on the already occurred events of the past, started to argue that complexity, nonlinearity, and chaos as well as cycles and crisis are an inevitable condition for development. This would be the case—unless we understand that all the afore-listed phenomena are a natural product of the second paradigm of development.

Diogenes of Sinope, who lived in the fourth century BC, was correct when he said that the person who had invented a plough made a very adverse favor for humankind, since that invention enabled people to produce more products than the producers needed for their own survival. That is, the crisis of the currently existing life-organization model, with its due-to time and space interconnection between production and consumption, started long ago, since the moment of its inception.

Appearing in the 1970s, information technologies providing for direct communication with consumers, and flexible production systems that can be adapted to specific orders in the real-time regime, did not change the given development paradigm, and did not consolidate the embryonic opportunity to establish direct connection between production and consumption and to conciliate their interests. Information technology became “an end in itself” for development and a means to create global markets.

So, the essence of the second development paradigm is seen in the indirect and desynchronized (both in space and time) interconnection of different commodity production technologies and consumption of such commodities by a specific human individual.

So, the essence of the second development paradigm is seen in the indirect and desynchronized (both in space and time) interconnection of different commodity production technologies and consumption of such commodities by a specific human individual.

All crisis of this development paradigm occurred at the peak of growing time-related disproportion between the arising and satisfaction of a need. The current systemic crisis is the peak of the given development paradigm. Globalization of all relations in its current form, started to negate itself as soon as it appeared.

Why so? Together with globalization of all processes and the freedom in movement of ideas, goods, money, and information, the conveyer-type mass type of production survived and its length in space has grown to the global level. Time between arising and satisfaction of a specific individual's need has become even longer. It does not appear possible to conciliate interests of states, society, business, and specific individuals. This long road of time and space, available for the aforementioned movement, offers perfect conditions for absolutely all negative phenomena. Poverty and inequality, primitive economy, underdeveloped production and trade, terrorism and corruption, natural abnormalities and disasters, growing prices and inflation, and so on—all these are links of one and the same chain, and a product of the indirect development model. In the given case, the factor of time plays an extremely negative role. In such circumstances the scattered and narrowly specialized scientific knowledge undergoes crisis in the solvency of different theories and their explanatory abilities to make a subjective assessment of the occurring events.

However, in the age of cosmic speeds and application of digital, info-, cognitive, nano-, and other technologies, we see an onrush of change of economic and other realities that are incompatible with such types of production and consumption, and, in particular, with such types of interconnection with a specific individual and with impossibility to conciliate their interests.

At the same time, it is only now, owing to development of information communication technologies (ICT) and other high technologies of the twenty-first century that we again have an opportunity to proceed to the direct connection between production and consumption; that is, again to proceed to the first development paradigm.

An efficient means to eliminate disproportions and de-synchronization of all processes in time and space can be found provided only that production–consumption relations are properly synchronized, and interests are agreed on with each specific human individual within the whole range of his/her spiritual and material needs, while goods and services that would satisfy the given needs would be produced under the given individual's order, without manufacturing anything redundant. Only such production, oriented to satisfaction of needs of a specific individual under his/her order, would serve the basis for preservation and replenishment of natural ecological life-support systems for current and future generations.

Transition to the first development paradigm would provide for resolution of the two interconnected strategic tasks, that is:

1. to modify the contents of economic and social policy by the states so that it would be aimed at transition to reproduction trajectory of domestic development, provided only that the entire process of reproduction would be oriented to the ultimate result—evolutional reduction of time between arising and satisfaction of needs (demand) of each specific individual. This can be attained provided only that commodities are produced under the order of any specific individual. To this end, it appears necessary to draw up and realize a program for re-industrialization of the entire production— that is, to put production on the track of advanced engineering and technologies connected with attainments of science-tech progress. The end target is to have smaller high-tech forms of production with distributed systems that can be "re-tuned" in the real-time regime with due regard of a specific individual's order covering the whole range of the customer's needs;
2. at each local level, to form a mechanism of real-time conciliation of all actors in such relationship—that is, the state, business, and end consumers (specific individuals). As a result, only a minimal number of problems that cannot be coordinated at the local level would be presented for conciliation of interests at the regional or national level. Such conciliation must be realized through the shared cross-communication infrastructure, universal for all types of production and all consumers, and based on application of digital information and communication technologies, broad-band television, and other innovations that are so widely and eloquently discussed at all domestic and international levels.

Figure 4 presents the outlay of the new model to be applied for life organization at each local level and in fact representing the former, first development paradigm based on direct interconnection between production and consumption elevated to the new technological level as well as on development of information systems for direct communication of humans. Such technologies are already available to satisfy almost the whole range of human needs.

As early as by the end of the twentieth century, when information technologies just appeared, Toffler wrote that quite soon everyone, operating his/her personal computer, would control the technological process to manufacture products for his/her personal consumption without producing anything redundant (2010). Today, for example, Toyota disclosed its plans to develop interactive communications between owners of its cars, dealers, and the head office of the given company. The social network that would unify millions of people throughout the world was to start functioning in 2012. The system would be based on technologies of corporate social networks, and access thereto will not be available for outsiders. "Social networks change the means of communication and format of interaction among people," said Toyota President Akio Toyoda (IA Vladnews 2011).

The new social network will be named as Toyota Friend. The users will be able to "communicate" with their cars by sending messages like they do in Twitter and Facebook, while every car will have its own profile. On the other side, electric motor cars will be able to send short messaging service (SMS) to the owners'

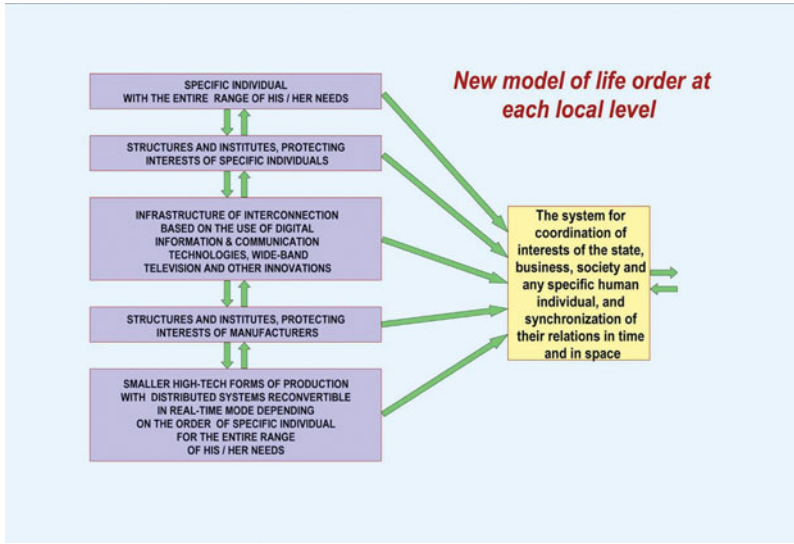

Figure 4. New model of life organization at every local level.

mobile phones in order to remind them that, for example, time is coming to charge the battery. Thus, drivers would be able to conduct a sort of conversation with their own cars (IA Vladnews 2011).

In her book *Technological Revolutions and Financial Capital*, Carlota Perez writes that technological revolutions occurring about once per half-century deliver their fruits with some time lag. It takes two or three decades of turbulent adaptation and assimilation before the new technologies, sectors, and infrastructures would start facilitating the advent of the "golden age" (*belle époque*), or "era of prosperity" (2011). That is, owing to technologies of the twenty-first century that emerged some thirty years ago, production again returns to the local level, to the household level, and finally to the level of a specific human individual.

Arising when it becomes ever more evident that the previous efforts to resolve a crisis fail, the need for changes manifests itself most amply in the sphere of business. All over the world, companies suffered big losses as profits, revenues, and numbers of jobs reduced sharply. Appearing in such crisis circumstances, new business models, first, compensate the experienced losses, and, second, serve prerequisites for building of the "new global order" in the economic sphere.

As Paul Betsis (director-general of Cisco Systems LLC, in charge of Cisco's corporate business in Russia and other Commonwealth of Independent States [CIS] countries since 2011) writes in the *Territoriya Biznesa* journal (Betsis 2010), those companies will have sustainable competitive advantage, who will rapidly enact the joint operation methods and instrumental means enabling their employees, customers, and partners to contact and interact with one another any time and

wherever through any appliance as well as to use services that while saving time and money produce the most weighty results.

Powerful functionality of Web 2.0 technologies and social networks enables end users to share their personal experiences of using goods and services and in many cases to recoup the respective investments in the real-time regime. The broad environment of mutual net are willing to hear and cooperate with their customers as well as to develop innovative and more valuable products of better quality with regard of their customers' (users') requirements.

As said further on in that article, the economy built on a "smart" technological basis would enable organizations and individuals to work productively and cooperate irrespectively of their location. For instance, when companies started to cut the numbers of business trips, many operators began investing in new corporate technologies—in particular in joint operation technologies. Besides, the business community ever better understands the importance of private-and-public partnership for further economic growth and prosperity, for more efficient money turnover, as well as for impulsion of economic growth and activation of business at local, regional, and global levels.

In Betsis's view, a most ample case in point is served by the free economic zone of Songdo (Republic of China [ROK]) that has become a model of private-and-public partnership between major transnational corporations and the ROK government in building the brand-new city from scratch. With the latest achievements of science and technology to be embodied in Songdo, its residents will enjoy all modern comforts of life, including 250 hectares of outdoor public spaces and parks.

The most advanced technological infrastructure to be built in Songdo will include business centers, hotels, museums, and supermarkets. The city promises to offer a quality life, based on the advanced town-planning experience and ecologically pure urbanization, to its residents and guests.

As said in the conclusion of that article, neither companies nor private individuals can operate on its own in the contemporary world. As shown amply by the economic crisis, we all are tightly interconnected. We must draw lessons from the crisis, and those who will do so will have unprecedented opportunities. That is why many governments invest big funds in development and modernization of national technologies infrastructures as well as in creation of new joint operation technologies that would convey innovations to every human person.

The following example features the new tech revolution beginning in the United States. Many years ago China was able to attract U.S. businesspeople by offering them production subsidies, liberal regulation, and, most important, cheap labor. In the 1990s millions of American jobs "moved" to China. For China, manufacturing industries served the basis for uniquely rapid and sustainable growth of its national economy. Today, however, much has changed both in the United States and China. In China, salaries are growing and the government does not hasten to offer inexpensive subsidies and tax benefits. So, today some major companies choose to repatriate their manufacturing units back to the United States (Finmarket Information Agency 2012).

In the United States new jobs are being generated massively on the basis of the most advanced technologies. Such technologies as artificial intellect, 3D printing, robot equipment, and nano-technologies were developed rather slowly. Today, however, they are being introduced in Americans's life almost as swiftly as was the case with computers. The modern American robots—special electronic-and-mechanical devises—can be controlled remotely and the range of their abilities is growing. Today robots can do surgeries, milk cows, pilot combat aircraft, go on the scout, and even take part in battles.

In full compliance with the American spirit of enterprising, not only professionals but amateurs, too, are engaged in super-robot inventions. Dozens of start-ups appeared in the United States and sell equipment for assembly of personal robots, while the Internet is flooded by video with homemade inventions.

3D printing can hit a heaviest blow on Chinese domination in manufacturing. 3D printers are capable of producing medical implants, fake imitation jewelry, and even clothes. The cheapest 3D printers today cost between $500 and $1,000. Quite soon this price will be sufficient for a printer that would "print" toys and household products right in the home kitchen (Finmarket Information Agency 2012).

By the latest information in March 2013, specialists at the Massachusetts Institute of Technology (MIT) are working on the new generation of 3D printers, which they call "4D printers." In the future such 4D printers would be used to print furniture, transportation vehicles, and even houses, and all these items will be self-assembled (Kasmi 2013). It should be noted, however, that with the existing life-organization model the 3D printers, however expensive they might be so far, have already become an attribute of the criminal world. For example, members of a high-tech criminal group that was rendered innocuous in the United States used 3D printers to manufacture schemers—appliances to be installed in cash machines in order to steal bank-card data and card-deposited money (Kotov 2011). Using a 3D printer, one can print keys to unlock an apartment or a car, or even a handgun that shoots combat bullets. Hence when 3D and 4D printers become generally accessible and inexpensive all of us will have to take new personal safety measures.

The rapidly forthcoming revolution in the production sphere promises fantastical opportunities for transition to a new indirect model of human relations. It is based on the same ideas that resulted in digitizing of communications and computing processes, but now, apart from the virtual sphere, the physical world, too, would become programmable. Digital production would enable people to develop and produce material items wherever and whenever needed, as well as to transform electronic data into physical things and vice versa. Quite soon, broad access to these technologies will challenge the traditional business-making models because digital production is based on personalization—that is, manufacturing of products for the "market" comprised of one person.

Now, let us recall our new life-organization model, which suggests direct communication between a specific human's needs and production on the base of handicraft economy—that is, production for one's own needs, but at the new high-tech level. As we see, the trends are needs are growing rapidly in the world to proceed exactly to the new offered model, theoretically substantiated thirty years

ago—the new model of life for the state, society, business, and specific individuals. Moreover, the following trends manifest themselves most clearly: transition from large-scale industrial production to small-scale and even miniature production, and replaced of specialized production by universal one.

The third trend: competition no longer is an engine of development—it is being replaced by partnership, cooperation, and coordination in time and space.

Another example cannot be left unnoticed. Manuel Castells, American sociologist and renown researcher of information society (Baidakova 2012), while observing the protest movements (including those in Russia) of the last several years, concludes that if a state has problems with freedom, then its difficulties would last for a long time, because the Internet enables people to receive information, contact one another, and create their own media and social networks, in which they generate challenges to the state. The only way for the state to coexist with Internet freedom is to open channels of political participation and to accept the fact that what we treat as democracy is no longer recognized as such by many people. It is necessary to search new forms of democracy—not by repealing the existing ones, but by supplementing those by electronic democracy, democracy of local-level participation, transparency of finance, and control over banking. Very little if any room is left for the idea of democracy, which means that every four years you vote at elections while the outcome is predetermined by mass media, authorities, and major corporations. By the end of the nineteenth century, too, there was democracy, but women and minorities were not entitled to vote. Today we have made progress, but we do not have democracy relevant to the age of the Internet. Either democratic institutions are open for the broad public and become more transparent, or society might plunge into serious conflicts or even violence.

New forms of participation are appearing on the scene. What is the spice of society today? Money, banks, finance! Therefore the Occupy movement works along several lines—they found cooperative entities to operate in their own production of food, organize barter networks, and arrange alternative currency. Social currency appears to be used within a particular community of people. Time banks are becoming ever more popular—you spend three hours for my benefit, and I spend three hours for your good. The idea is to get rid of money. So far it is not very popular, but the number of its adepts is growing rapidly. The number of local community banks in America is growing. People demand that local authorities should withdraw municipal funds from major banks—such as Chase Manhattan. In Buffalo, New York, a local public movement accomplished such an endeavor successfully, and now the city reached an agreement under which all municipal money would be withdrawn from Chase Manhattan and deposited in the local bank managed by a special cooperative. Protest demonstrators proceed from words to all sorts of specific deeds that change the society "from bottom to top"—not in the sense of ideology but rather in the sense of a different mode of life.

Thus the project environment of the new life-organization model is not being formed at the macro level but rather at each local level with the respective structural, organization, science-tech, institutional, and other contents.

FORMATION OF THE NEW LIFE-ORGANIZATION MODEL: MOST IMPORTANT IMPLICATIONS

Consideration of each individual's interests at every local level and conciliation of such interests in the real-time regime are the only available driving forces that would provide motivation for the higher productivity of labor and accelerated innovative development of socially oriented high-tech forms of production. In such conditions, every specific consumer can become a stakeholder and investor of the given business. Today, however, notwithstanding the crisis, reduction of deposit interest rates and growth of inflation, Russian depositors increase their bank deposits. Hence, the wider disproportion between the time of production and circulation of commodities and money. Channeling of these moneys directly to the real sector would help in the more efficient resolution of the task to make our economy much less dependent on raw-resource supplies and to enrich it with the long-expected intellectual dimension. This will be attained owing to arising of new possibility to create conditions for any person to generate new knowledge in the interests of the entire society and at the same in his/her own interests. Only in such conditions it will be possible to build actually the new, "smart" economy, based on intellectual excellence and production of unique knowledge as well as oriented to continuous improvement of human life quality. Only in such conditions it will be possible "to replace the resource-based primitive economy by smart economy producing unique knowledge, unique things and technologies, as well as things and technologies being useful for people." And, only such economy will be the most competitive in creating an absolutely quality of life for people.

For accelerated formation of the new and at the same time former model of life organization, it appears rational:

- within the shortest period of time to accomplish modernization of Russia and any country of the world through transition to the model of life organization for the state, business, society, and each specific human individual with due conciliation of their interests in the real time by systemic application of advanced technologies of the twenty-first century. As the major precondition for realization of this task, national leaders must have the political will to form such a level at the municipal, regional, and federal levels;
- within the shortest periods of time to draw the "Comprehensive Target Program for Formation of the New Life-Organization Model" and to realize the latter at each local level;
- for elaboration of such a "Comprehensive Target Program," it would be advisable to establish, within the Russian Academy of Science, Russian Academy of Natural Sciences, and academic communities of concerned countries, an inter-academy and inter-institutional cross-disciplinary group of academics and practical specialists; and
- to provide for participation of all national science towns and innovation towns as well as the entire global intellectual community, unified by network cooperation within the Internet in development of the afore-described model with due regard of tax preferences and legal acts. For realization of this program, it most

strongly requires the "energy of youth"—the best young minds of IT-specialists, software and hardware engineers, researchers, inventors, and others. Armed with new knowledge and understanding of the fact that this project meets their own interests as well as the interests of their relatives, friends, and the whole society, young talents would be able to formulate their demands to the state and business in precise terms and to build the basis for realization of the new sustainable development paradigm; to provide for transfer of the new life-organization model throughout the whole territory of Russia and, probably, the entire planet—may be, under the auspice of the United Nations.

As early as in the book *Forecasting the Future: A New Paradigm* the author noted

> The key to the philosophy for building the global society and all its institutions must be served by the following premise: All habitants of the Universe share the same origin; all people share the same human nature; all religions share the same divinity, while the entire global community and each human individual share one the same sole objective—to attain the Supreme Reason in their development. The major task of the UN or any other institute, established on its basis or within its framework, will be to include a structure that would accumulate all knowledge—from origination of the Mankind through to the current time. From this science-tech data pool, it would be possible to receive any knowledge so that in any corner of the planet technological chains could be built between arising and satisfaction of a specific human need, and thus to provide the growing synchronization of all processes in space and at the same for their reduction in time. The missing knowledge is an order for new R&D, new research, experiments and designs. (Bondarenko 2008a, 269).

Realization of the given project for the entire global world would be a breakthrough to the future, in which the "sustainable and crisis-free development" would at last become a logical and regular reality rather than a beautiful abstract slogan. Such a future can and must be formed right today, here and now, with due regard of each specific individual's interests as well as interests of the entire global world. For the contemporary generation of people, harmonization and synchronization of human relations in time and space is the only available chance to create a new quality of life for our contemporaries as well as for future generations. The main point is not to lose time again and not to admit a destructive wave of the new crisis!

FUNDING

This research has been supported by the Russian Foundation for the Humanities (Project #14-02-00330).

REFERENCES

Astashenkov, A. 2013, July 15. *Poslednii raz zhestkaya ekonomiya privela k fashizmu* [Last time the strict economizing resulted in fascism]. Russkaya planeta, In *Russian*

[Асташенков Артем. Последний раз жесткая экономия привела к фашизму. Русская планета]. Available at: http://rusplt.ru. Accessed July 15, 2013.

Bajdakova, A. 2012, June 20. Sociologist Manuel Castells on inevitability of new democracy. In *Russian [Социолог Мануэль Кастельс - о неизбежности новой демократии]*, http://www.svobodanews.ru/content/article/24620450.html. Accessed June 23, 2013.

Baranikas, I. 2013, 18 September. *Prognoz po Rossii huje chem v tselom po planete* [The outlook for Russia is worse than in the whole planet] Moskovskiy comsomolets. In *Russian (Прогноз по России хуже, чем в целом по планете. Московский комсомолец.* http://www.mk.ru/economics/purse/article/2013/09/17/916767-prognoz-dlya-rossii-huzhe-chem-v-srednem-po-planete.html. Accessed June 23, 2013.

Betsis, P. 2010. Setevaya economika stanovitsya normoi [Network economy becoming a norm]. *Territoriya biznesa*; 11 (48): 44–46.

Bondarenko, V. 2008a. Forecasting the future through the prism of the new cognition methodology, or future can be only forecasted from future In *Forecasting the future: A new paradigm*, ed. G. G. Fetisov and V. M. Bondarenko, 220–270. Moscow: Ekonomika. P.. In Russian [Прогнозирование будущего сквозь призму новой методологии познания или прогнозировать будущее можно только из будущего! Глава 6 в книге *Прогнозирование будущего: новая парадигма*/Под ред. Фетисова Г. Г., Бондаренко В. М. М.: Экономика].

———. 2008b. Innovations, information society and long-term development strategy of Russia. *Informatsionnoe obshchestvo* 5–6:109–114. In Russian [Бондаренко В.М. Инновации, информационное общество и долгосрочная стратегия развития России. *Информационное общество* 5–6:109–114].

———. 2009a. Innovations, information society and long-term development strategy of Russia. *Informatsionnoe Obshchestvo* 1:78–83. In Russian [Бондаренко В.М. Инновации, информационное общество и долгосрочная стратегия развития России. *Информационное общество* 1:78–83].

———. 2009b. Russia's future viewed from the future. *Integral* 1:32–34. In Russian [Бондаренко В. М. Взгляд из будущего на будущее России. *Интеграл* 1:32–34].

———. 2009c. Search for Russia's socio-economic development model and the mechanism of its realization. *Integral* 6: 44–46. In Russian (Бондаренко В.М. Выбор стратегии социально-экономического развития России и механизм ее реализации. *Интеграл* 6: 44–46).

———. 2011a. Contours of the economy of the future and the present: Two paradigms of development. *Vestnik IE RAN* 2:25–38. In Russian [Контуры экономики будущего и настоящего: две парадигмы развития. *Вестник ИЭ РАН* 2:25–38].

———. 2011b. Global processes and their dynamics: Two paradigms of development. *Journal Globalization Studies* 2(2):80–89.

——. 2012. *Crisis-free development—A myth or a logical reality.* Moscow: Nauka. In Russian [Бондаренко В.М. *Бескризисное развитие – это миф или реальность*. М.: ИД «Наука»].

Capra, F. 1975. *The tao of physics*. Boston: Shambhala Publications.

Comte, A. 2003. *Doukh positivnoi filosofii (Slovo o polozhitelnom myshlenii). [The spirit of positive philosophy (A word on positive thinking)]*. Translated from French by I. A. Shapiro. Rostov-on-Don: Phoenix Publishers.

Crasnova, A. 2013, April 21. *Voina spaset capitalizm* [The war will save capitalism] Komsomolskaya Pravda. In Russian [*Война спасет капитализм. Из выпуска рассылки*

Комсомольская Правда от 21-04-2013], http://subscribe.ru//archive/media.today.kpcover/201304/21080044.html. Accessed June 23, 2013.

Fetisov, G. G. and V. M. Bondarenko, eds. 2008. *Forecasting the future: A new paradigm*. Moscow: "Economika" Publishers. In Russian [*Прогнозирование будущего: новая парадигма*. Под ред. Фетисова Г.Г., Бондаренко В.М., М.: Издательство «Экономика»]

Finmarket Information Agency. 2012, July 27. *Роботы. Roboty prevratyat SShA v novoho promyshlennogo lidera planety [Robots to make the US a new industrial leader of the planet]*.

Huntington, S. P. 1996. *The clash of civilizations and remarking of world order*. New York: Simon & Shuster.

IA Vladnews. 2011, May 30. *Nauka yi technologii, Toyota sozdaet svoyu socialnuyu set [Toyota creating its social network]*. http://vladnews.ru/2011/05/30/44152.html

Kasmi, E. 2013, March 4. 4D-printer will be able to print self-assembled houses and furniture. In Russian *[4D-принтер сможет печатать самосборные дома и мебель]*, http://www.3dnews.ru/news/642262/

Kolodko, G. W. 2011. *Globalizatsiya, transformatsiya, crisis—chto dalshe? [Globalization, Transformation, Crisis—What's Next?]* Introduction by R. S. Grinberg, p. 9. Moscow: Magistre Publishers. In Russian [*Колодко* Г. В. *Глобализация, трансформация, кризис – что дальше?* М.: Магистр].

Kotov, P. 2011. Criminals are Beginning to Use 3D-Printers. *3D News-Daily Digital Digest*. In Russian. Available online at: http://www.3dnews.ru/news/618463. Accessed October 18, 2011.

Laszlo E., P. A. LaViolette, Y. Abe, P. Abrecht, R. Achuthan, A. Ahmad, K. Azfar et al. 1977. *Goals for mankind. A report to the Club of Rome on the new horizons of global community*. New York: Dutton.

Perez, C. 2011. *Technologicheskiye revolutsii yi finansovyi capital [Technological revolutions and financial capital]*. Moscow: DELO Publishers. In Russian [Перес Карлота *Технологические революции и финансовый капитал*. М.: ДЕЛО].

Russia G20 website. 2013, September 6. *The second working meeting of heads of the delegations to the G20 summit*. In Russian [*Второе рабочее заседание глав делегаций саммита «Группы двадцати*]. http://ru.g20russia.ru/news/20130906/782717864.html. Accessed June 23, 2013.

Spencer, H. 1885. *Philosophy and religion. The nature and reality of religion*. London: WL Prewer.

Spengler, O. 1998. *Zakat Evropy. Ocherki morfologii mirovoi istorii. [Decline of Europe. Essays on morphology of the world history]. Volumee 2: Vsemirno-istoricheskiye perspectivy [Worldwide historical prospects]*. Translation from German and comments by I. I. Mahankov. Moscow: "Mysl" Publishers.

Tinbergen, D., ed. 1976. *RIO: Reorganization of international order*, Roman Club Report. New York: Dutton.

Toffler, E. 2010. *The third wave*. Moscow: AST. In Russian [Тоффлер Е. *Третья волна*. М.: АСТ].

Vernadskiy, V. I. 1988. *Philosofskiye mysli naturalista [Philosophic thoughts of a naturalist]. M.: Nauka*. In Russian [Вернадский В.И. *Философские мысли натуралиста*. Moscow.: Наука].