

## INNOVATIONS, INFORMATION SOCIETY AND LONG-TERM DEVELOPMENT STRATEGY OF RUSSIA<sup>2</sup>

*The article shows that understanding of such problem as construction of information society and formation of national innovative programs lies in the mainstream of theoretical conceptualization of development of human system as a whole. This new knowledge could be obtained owing only to the new methodology, developed by the author for cognition of the laws of human community development, and based on the target orientation, systemic and cross-disciplinary nature of all processes and their measurability through the single indicator and uniform criteria of efficiency. This made it possible to define, namely, the cycles and crises in each particular country and in the entire global community. It turned out to be the result of ignorance of objective laws of development. It has also made it possible to find out the global innovation that will irreversibly change the means of production of things; to formulate the fundamental tasks of development strategy of socio-economic systems and the mechanism for its realization with proper account of interests of a concrete person. It provides the possibility to effectively and within the shortest period of time find the way out of the systemic global crisis and take the course of continuous evolution to reach the objectively set goal of development.*

JEL. O11

The current situation in the world and Russia is featured by assault of the financial and economic crisis along all vectors. The world, again, is faced with the situation, for which it has not at all been prepared. Hence, first, the hectic search of the guilty party, and second, the efforts to invent prescriptions that would correct the crisis phenomenon. Illness is cured by the method of trial and error; without thorough theoretical understanding of the mechanisms of appearance of this illness it is impossible to guarantee its complete recovery. It seems evident that theory is necessary in order to solve the task of building the information society - the more so that today the talk on the latter subject extends to formation of Electronic State of

<sup>1</sup> Dr. Valentina M. Bondarenko is Leading Researcher, RAS Institute of Economics, Director, International N. D. Kondratieff Foundation.

<sup>2</sup> This article was written with support from Russian Humanities Foundation (Grant No. 06-02-00165a) and published in Russian in journal "Infomatsionnoe soobschestvo" ("Information Community"), N 5-6, 2008 and N 1, 2009 (<http://emag.iis.ru/arc/infosoc/emag.nsf/BPA/df59fb121a8e9f5e325757700463c36>; [http://emag.iis.ru/arc/infosoc/emag.nsf/BPC/8ed5b3e151\\_d4657cc32575940049bba6](http://emag.iis.ru/arc/infosoc/emag.nsf/BPC/8ed5b3e151_d4657cc32575940049bba6)).

the 21<sup>st</sup> century.<sup>3</sup> If an incorrect way is selected from the very start, that would pose a great danger.

At the same time, however, the studies of this problem indicate that a separate theory for building of information society is not and cannot be available, because the problem is not the one of engineering, technology or economy, but is rather a social-science problem of systemic magnitude. That is, understanding of this problem is to be found in the mainstream theoretical comprehension of regularities pertaining to development of the entire human community and all of its subsystems in whatever the aspect.

To support this argument, I always refer to the following cases in point. The early 1980s saw the start of computers' introduction in the Soviet national economy and development of various types of computer-based automatic control systems. The pioneer of those R & D was Academician V. Gloushkov. As a result, however, he arrived to the conclusion that to use computers in the system of relations prevailing in the Soviet Union would be the same as to install jet engine on a farm wagon. The system turned imperceptive of achievements reached in the progress of science and technology.

Development models of today reveal another extreme. Broad dissemination of information, genic and nano- technologies as well as DNA molecule-based biological computers created the conditions, in which it becomes possible to contact human mind with a computer and thus to create a human-machine cybernetic organism, the cyborg. Advent of self-learning robots posed a threat that humans would be replaced by and lag behind machines in the sphere of intellectual activities as well as become machines' slaves.

It is most important to understand that today many countries, including Russia, seek, although without success so far, to proceed to innovative development and start building the knowledge-based society. Many countries have begun developing their national innovative systems, the arsenals of which contain R & D of the sixth technological tenor - such as nanotechnologies, biotechnologies, fantastic information technologies and security system technologies. But, there is no warranty that these achievements will not be applied for destructive purposes but would rather serve for the good of humanity.

Meanwhile, the progress of science and technology goes on, and the task of building the information society is now discussed in broader terms, such as creation of Electronic State of the 21<sup>st</sup> century. However, the current social, economic, political, organizational and science-tech disparities do not make it possible for various countries, regions, municipalities and people to enjoy equally all the benefits of digital technologies.

<sup>3</sup> All-Russian Conference on "Electronic State of the 21<sup>st</sup> Century" (Moscow, 30 September 2008).

In other words, today, like in the Soviet period, the existing development model for human community in general and Russia in particular (notwithstanding all post-Soviet transformations) runs counter to achievements in science and technology. Today, mankind is at the brink of self-destruction by its own intellectual inventions, while in the social-science and humanitarian terms it has not realized the regularities of human development.

I refer to these examples in order to show, how great responsibility is for implications of decisions on building of information society, especially when such decisions neglect the effects of deep-seated general objective laws laid in the basis of human system development.

Therefore, in my papers, presentations and articles I always address theoretical problems incurred in building of information society through the prism of understanding the regularities in development of human community as an integral system.

Let me identify the main topics: Information Society For All - Information Society For Each Human Being" [1. pp. 97-99], "Internet As A Means For Concentration of the Entire Human Community in the Same Time Space" [2. pp. 143-144], "New Methodological Approach To Substantiate the Concept and Strategy of Building the Information Community" [3].

This article, entitled as "Innovations, Information Society and Long-Term Development Strategy of Russia"<sup>4</sup>, also addresses theoretical problems of mankind development in the context of information society in formation.

All mentioned publications have such feature in common as consideration of therein discussed theoretical problems through the prism of the new methodology, developed by me, for cognition of regularities in development of human community. In 2008, a Russian publishing house of "Economica" issued a book entitled as "*Prognozirovanie buduschego: novaya paradigma*" [Forecasting the Future: A New Paradigm]. Therefore, I would not expand on the new methodology for cognition in this article. I would just address its major points in order to clarify the essence of my further discourse.

First of all, development of the new methodology for cognition was not an end in itself. Having come across the contradiction in my particular applied studies, I was able to disclose its essence only when it became clear that *the found contradiction was of systemic nature. That is, contradiction in the particular can be only comprehended through understanding of the general, and can be explained and resolved through integration of the available scattered pieces of knowledge.*

*It was necessary to unify them systemically by identifying the target function of development of the whole system and any of its parts in any aspect.* It was necessary

to define not only the purpose of the human community development, but the end goal, which cannot become a sub-goal for a higher objective. In other words, *it was necessary to identify the objective reason for the human system development* and to understand that human beings do not live in order to provide for GDP growth or to manufacture the maximal possible amounts of weapons for their own annihilation.

*A human being lives in order to develop and realize his/her spiritual and intellectual potential and at the same time to elevate the level of consciousness and physical perfection.* By reaching the Supreme Reason, a human being would approach the image and liking of the Author of Life - that is, would become a god-and-man who would start creating those similar to himself. This is the true reason for human existence, and the Cosmos for realization of this objective is infinite.

Then it turned out that for objective appraisal of the system development in relation to the identified objective, *all the variety of processes and phenomena could be only analyzed through just one index, the time.* By applying this index, it becomes possible to measure and juxtapose what is not measurable and not subject to juxtaposition, and - what is most important - to correlate all facets of human and societal life with the target ideal and to identify as at which stage of human progress has been reached by the time. Today, neither GDP or GNP, nor human potential development index or other indices would make it possible to identify the cause-and-effect relation of all processes and phenomena, as the change rate of economic reality is higher than the rate of its exploration. Therefore, contemporary science cannot say precisely if it approached the dangerous line of ignorance, or crossed that line, or still has a sizable margin of safety. It seems that traditional (or, in contemporary terms, orthodox) science does not have a margin of safety any longer. So, human knowledge of economic reality, while growing like an avalanche, becomes outdated immediately, because when this knowledge is used and conclusions made, the picture of the world would be entirely different already. Hence, we need a different paradigm, a different index and a different rate of obtaining information and knowledge.

The above analysis suggests that *functional efficiency of the whole system and any of its parts could and should be considered through the only one criteria - that is, continuous and dynamic reduction of time that would pass between arising and satisfaction of a specific human being's need - provided diversity of people and their equal and free access to material and spiritual goods for maximal development and realization of their spiritual and intellectual potential.* *This quality index makes it evident that if such time tends to reduce continuously and evolutionally, then the human system develops efficiently in relation to the set objective.*

Today many forecasters emphasize that in the global economy, the quantitative indices of economic development (for example, GDP) become less significant, while the index of development quality moves to the forefront. Therefore, in terms of reaching the ultimate objective of human community development, we must know a priori as what socio-economic and political structures as well as what technological system would be relevant to the given objective, what is the instrument for their

realization, and how the human interests would be reconciled meanwhile. Without mutual relevance of the said structures, technological system and the objective, and without an instrument for its realization and mechanism for conciliation of most diverse human interests, the system could take monstrous forms through to self-annihilation. By finding the proper conditions for relevance of socio-economic and political structures, technological system and mechanism for realization of the objective, we would come closer to this objective, and the more rapid the processes would proceed, the nearer we approach the objective. If the time reduces, it would mean evolutionary development of human community, while the growing time would mean prevalence of involution development process and reverse movement.

In the above-mentioned book, "Forecasting the Future: A New Paradigm", the main conclusion was reached owing to the new methodology for cognition: future can be only forecasted from future - that is, from the future, in which the objective has been attained already. In other words, the "new paradigm" means substantiates the acute need to withdraw from the methodological system, in which the prognostic process proceeds "from past to future" and which defines the course of history in the established trends. The proposal is to change the paradigm of scientific thinking by proceeding from the principle of historicism (which until now is considered the only scientific principle both in the materialist and idealist systems of thinking) to the principle of meta-historicism - that is, to cognition of something, which is beyond the present day and beyond the empiric perception.

It is for the first time that the prognostic process is placed as subordinate to teleology and definition of its objective. However, articulation of such objective is not an imaginable construction, but rather identification of the objective and attainable goal in development of a new meta-historic quality. Further on, from this null space and time we identify the possibilities and mechanisms for evolutionary attainment of this new quality. Forecasting of future from the future has never been formulated either in Russian or foreign literature.

Another novelty is that the systemic cross-disciplinary approach is used for the first in the version, which identifies the influence of the future upon the present. The traditional method of socio-economic and science-tech prognostics, based on the borrowed ideology of classical mechanics, means extrapolation of different and sometimes diametrically opposite trends from the past and present into the future. The shortcoming of such methodology is evident - it fails to consider involution process in relation to the identified objective, which processes draw the human system's development far behind, as the growing time-lag between production and consumption as well as between the objective and its attainment would inevitably result in crisis situations irrespectively of the type of socio-economic relations in any given society.

In order to remove this problem, our theoretical model should include the third basic postulate - namely, the principle of minimization or, in perfect terms, even nullification of the time lag between emergence and satisfaction of a need. This task can be resolved through the already available methods of modern information telecommunication. As a result, we would obtain knowledge coming from the future

rather than from the past - the best prerequisite for sustainable development by the offered theoretical model of socio-economic relations.

Today many observers associate such task as selection of Russia's long-term development strategy with innovative breakthrough and use of innovations as a strategic resource.

But, what does the term of "innovations" mean? Does it mean new and radically new R&D in the spheres of science, engineering, policy, and economy, or is it rather an innovation, which, according to Shumpeter, would change the way of production irreversibly?

In the first case, there could be a giant number of innovations (for example, as many as the number of current mass media publications on the subject), and it would be difficult to match them with Shumpeter's definition.

According to Shumpeter, such innovations must be comparable with steam machine, railroad and electricity, and hence innovations should be limited in number - probably, even to one. How would we know? Before trying to answer this question, let us turn to foreign experience.

In 2004, IBM published its "Review of Global Innovations", prepared with due regard of opinions held by leaders in science and other fields of decisive importance for innovations - all in all, from 96 organizations based in 26 countries and regions.

IBM staff started that worldwide talk in order to find an approach to innovations in terms of identifying the regularities in societal development. But such approach, based on "Foresight" methodology, built upon information from the past and prolonged to the present and future, turned out too complex and extensive. In fact, the international team of researchers failed to find the needed approach.

Therefore, the IBM researchers limited their conclusions only to innovations, which are evident on the surface in the three spheres, such as: healthcare; state and citizens; business in work and life - not at all in line with Shumpeter.

So, without cognizing the regularities in societal development, one would not find the innovation, which would provide resolution of the most acute problems of our time. I happened to be able to go along a different way - to try to find an answer to the raised and many other questions by addressing them through the prism of the new methodology for cognition of regularities in development of human community.

Without expanding on the know-how of the conducted research, let me present the results, which help to understand the problem of innovations, information society and selection of Russia's long-term development strategy. Juxtaposition of the Russian and global practice of development with the theoretically outlined shared objective made it possible to find that:

*All development models available on the planet (neoliberal, Keinsian or totalitarian) have share such main feature as orientation of production to satisfaction of needs (demand) of an abstract end consumer through the elemental, archaic market form of communication with a specific human being. However, **with the current rates of changes in economic reality**, uncertainty of consumption resulted in emergence and global growth of disproportion between the time of production and time spent for circulation of commodities and money (in Toeffler's terminology - to de-synchronization of all processes).*

*The time for circulation is many times as longer than the time for production, and this fact, directly or indirectly, serves the basis for all other disproportions as well as negative and crisis phenomena.*

In this sense, the Russian model is the most problematic, as with Russia's territorial dimensions the disproportions between the time for production and time for circulation of commodities and money are pronounced more strongly than in any other country.

For example, as a result of such measures as establishment of stabilization and reserve funds, Development Fund and other specialized funds for safe-keeping of national monetary assets, and depositing thereof in accounts with foreign banks and various companies, the arrear of monetary funds without circulation in 2004 amounted to 12 days. As of early 2007, this index grew to over 95 days and today exceeds 100 days. To add the time while these funds will stay in foreign accounts, the given index will become many times as bigger. Meanwhile, these moneys are the revenues from sale of natural resources, high-tech equipment and intellectual R & D.

With other factors considered, we shall see the magnitude of disproportions. For example, such factors as *digital inequality among regions, various local government authorities and specific people, as well as the lack of the shared information space and the use of ICT mainly for formation, storage and processing of information for government and corporate needs result in the stronger de-synchronization of all processes.*

*The above discussion allows to derive the following main conclusion: the further production orientation to satisfaction of needs (demand) of an abstract consumer would result in accelerated destruction of all kinds of resources and even in extermination of human species as such. This thesis is amply confirmed by the current financial - to be more correct, systemic - crisis.*

*This systemic crisis is about to cross the reversal point, and then control at all levels and the possibility to create a critical mass of a different model would be lost. The profound reasons are to be found at the systemic level - that is, in the currently existing development model.*

**Therefore, the main strategic task is to change the contents of national economic and social policy as well as to reorient it to reproductive development trajectory within the country and to the ultimate result. Reduction of time**

**between emergence and satisfaction of needs (demand) of each specific human person on the base of his/her order (that is, without redundant production) must become the major beacon for development.**

If the planned economic diversification in individual sectors is not continued today along the whole chain of reproduction through production and consumption of ultimate products by specific consumers, the disproportions and de-synchronization of all processes would grow. In such case all efforts and injections, provided today for industry, high technologies and agriculture, will be futile.

With the current rate of changes in economic reality, it is not sufficient to connect government budget investments to the real growth of labor productivity in order to ensure efficient use of such investments and prevent from the further inflation growth. Such investments must be connected with productive consumption, so that everything, which is produced, would be actually consumed. This can be only attained through specific orders of specific people, without any redundant production, and such measure would make it possible to enhance wealth of all people rapidly and evenly in the whole space of Russia.

**Information and communication technologies (ICT) are to become an efficient instrument to eliminate disproportions and de-synchronization of all processes in time of production and circulation of commodities and money as well as to accelerate such processes synchronously in the vast expanses of Russia. To this end, however, ICT must be considered as a super-modern means of human communication, which, having replaced telegraph and telephone, makes it possible, owing to the current rate of production and consumption, to conciliate human interests in the real-time and online regime.**

As demonstrated by West economy in the last quarter of the 20<sup>th</sup> century, market relations in the course of their development underwent different stages - from the low level of archaic, free and unpredictable relations through the highest level of organized and direct ties and contract relations in the whole way of commodity movement, with knowledge of the precise outcome. Moreover, in the contract economy, while commodities were manufactured under the consumers' orders, it was not the manufactured product as such that became the purchase-and-sale item, but rather the special commodity, information, as the capitalist market was already basing on global information, received through networks of cable television, telecommunications, satellite communication and Internet.

Later on, this vector in development of Western economy was formalized as post-Fordism.

Fordism as an economic system for organization of mass-stream production appeared in the United States in the 1<sup>st</sup> quarter of the 20<sup>th</sup> century. This system of labor- and production organization was based on assembly line, as well as on type design of production, standardization and commonality of parts, their interchangeability, etc.



Ford was a pioneer of technologies that provided for inexpensive mass production and mass consumption. Mass consumption became a norm in the years, when salaries were rather high and prices of commodities were reducing. As production and consumption took place within national boundaries - that is, within one state, a relative balance was attained and sustained between the two for some time. As long as proportions between the time for production and circulation of commodities were not disrupted, the higher labor productivity was conducive to price reduction.

The years of 1945-1973 is qualified as the period of balance between mass production and mass consumption. The same period can also be called as the time of interest conciliation between manufacturers and consumers, while post-Fordists qualify it Fordist-Keinsian. Those years were featured by continuous economic growth and almost full employment of population. Advertising and TV encouraged mass consumption that served the basis for stable mass production, and some balance was sustained between the first and the latter. Growing incomes and full employment provided for sustainable economy.

National state was the venue of economic activities and national corporations used to dominate in the respective national territory. Two or three companies prevailed in each sector. In that period, national manufacturers supplied the domestic markets in developed states.

Later on, gradually, the Fordist regime was becoming less stable. With the trend for overproduction of mass commodities, the time for their circulation was becoming longer than the time for their production, prices and inflation were growing, and the regime of capital accumulation became unstable.

In the second half of 1970s Europe was hit by the economic crisis caused by overproduction of some goods and unsatisfied demand for other goods. It became clear that the Fordist and Fordist-Keinsian models were failing. Exactly at that time, the post-Fordist approach appeared to explain the crisis in systemic terms and to assign the main role to information. The approach was voiced by a group of French intellectuals, less known in Russia, who initially were influenced by Marx's economic ideas and studied reproduction of societal relations - namely, Michel Aglietta<sup>5</sup>, David Ferbach<sup>6</sup> and Alain Lihietz. They were concerned with the two key

<sup>5</sup> Michel Aglietta, born in 1938, is a former student of the Ecole Polytechnique (Promotion XI1959) and of the ENSAE. Current Professor of Economic Science at the University of Paris X: Nanterre, he is a scientific counsellor at CEPPI, a member of the University Institute of France, and a consultant to Groupama-AM. He is also a member of the Circle of economists<sup>^</sup>. From 1997 a 2003, he was a member of the Council of economic analysis for the Prime Minister. He is a teacher at HEC Paris. In October 1974, Michel Aglietta published his thesis, entitled *Regulation du mode de production capitaliste dans la longue periode. Exemple des Etats-Unis (1870-1970)*, for his doctorate thesis at the University of Paris I: Pantheon-Sorbonne. He is also aggregate professor for the universities in Amiens, after he was administrator of the INSEE. The jury who marked his thesis consisted of Professors Raymond Barre, H. Brochier, Carlo Benetti, J.Weiller and Edmond Malinvaud. Michel Aglietta was one of the founders in 1976, with Robert Boyer, of the regulation school. He is a

questions: How does capital accumulation take place? How does society control instability? In the search of answers they came to the conclusion that since the mid-1970s new regimes of capital accumulation started to emerge in Europe, while the Fordist regime, which prevailed in Europe from 1945 through to mid-1970s, became unstable to give way to what they qualified as post-Fordist regime.

Even at that time, the authors of post-Fordism argued that mass production of standardized commodities, manufactured in big volumes under the common technology, was disappearing as consumption was overfed by such products. Hence, mass production and mass consumption would be defunct. While in the Fordist period standardization was the main point, in the post-Fordist period the forefront was taken over by flexibility - that is, the production system, which, owing to modern electronic systems, was turned on to operate only if and when the order was made.

The consumption, too, became somewhat flexible - that is, enterprises, applying electronic technologies, could produce the more diverse assortment of commodities than before as well to manufacture efficiently smaller parties of goods. The structure of production was changing and moving from mass production to flexible specialization and distributed systems that could be reset on the real-time regime in conformity with the ordered type of products. The basis for such production was formed by information technologies and intellectual labor. Consensus would take place between production and consumption, and conciliation of interests was taking place between manufacturers and consumers. Unfortunately, these trends were not noticed and their architects were not heard. The world chose to proceed along a different road. Today, information technologies become an end in itself for development and a means to build global markets.

In such circumstances, the role of nation states was getting less significant. With such purposes as to find markets for sale of mass standardized products and to increase capitalization, national borders were opened for movement of commodities and money, the more fierce international competition was undermining national sovereignty of different states, and transnational corporations stepped in as new players. Trade as a link between production and consumption surpassed the borders of individual states and was internationalized, and the processes of globalization unleashed rapidly.

Globalization of markets, finances and production became possible owing to emergence of global information infrastructure with such features as:

specialist in international monetary economy, known for his work on the functions of financial markets.

<sup>6</sup> Michel Aglietta, David Ferbach *A Theory of Capitalist Regulation: The US Experience*, Aglietta's path-breaking book is the first attempt at a rigorous historical theory of the whole development of US capitalism, from the Civil War to the Carter Presidency. A major document of the 'Regulation School' of Marxist economists, it was received on publication as the boldest work in its field since the classic studies of Baran, Sweezy and Braverman. This new edition includes a substantial new postface by Aglietta which brings regulation theory face to face with capitalism at the end of this century and beyond.

- globalization of information services - in particular, modern financial, insurance, banking and advertising services. If not for such services, TNC would be unable to function. Production and dissemination of information on markets, consumers, regions, risks, partners, taxation systems, etc. - is the essence of this business, which generates profits through analysis and timely supply of information;
- rapid growth of innovation in the sphere of ICT in the last several years. Globalization propels development of computer technologies providing for cooperation among major international organizations;
- growing speed and volumes of information flows generated by appearance of global infrastructure.

The speed of all these processes was growing continuously. Scholars explained such changes in different terms. For instance, Daniel Bell qualified that period as "transition from industrial to post-industrial society" and associated the process with the shift from commodity production to service production. Russian scholars shared these or similar ideas. Production of information, information and communication technologies and services, together with production of money for money become an end in itself. Capitals are flowing exactly into the given boiler. Corporations receive fantastic profits. It is not incidental that until recently Bill Gates, the founder of Microsoft was identified as the richest man in the world. Today, with the fortune of 58 billion US Dollars, he stepped down to the third place. Until now, in the top lines of ratings of the richest people we do not only see owners of computer companies, but also owners of internet portals, supermarkets, mass media and gambling establishments, as well as, especially, owners of financial structures, engaged in purchase and sale of virtual capitals with the help of information technologies. That is why Warren Buffet, a US financier, was the number one name in the *Forbes* magazine's rating of the world richest. Buffet's fortune is valued at the level of 62 billion US Dollars. In 2008, his wealth grew by 10 billion USD owing to 25% growth in price of shares of "Berkshire Hathaway", his investment company. The second line is given to Carlos Slim from Mexico - this telecommunication tycoon and the richest man in Latin America, after his capital grew by 11 billion USD, now owns 60 billion USD. However, none of those invests their billions in production oriented to needs of specific people, although such investment could secure their own capitals and save the global economy from the financial and economic crisis and wars.

Globalization of ties in the world economy has become an omnipresent factor of economic growth in every country and in the world at large. In none of national economies domestic decisions can be taken without regard of the outer environment.

In view of Elwin Toffler, the author of "Third Wave" bestseller, globalization is not something necessary, as it results in the change of space and time relations as well as in full de-synchronization of human relations on the planet. In my articles of 2001, I have shown already that globalization in the currently observed form is an episode in

the history of human society development, and that just having emerged, it would start negating itself. That is what happened in reality. For example, the ever less time is left for the global business to take the ever bigger decisions. In the financial sphere, correct decisions must be made and taken within milliseconds, while in government structures decision-making might take years. In To frier's view, mass production, mass advertising and mass culture have become outdated. Time is coming for computer-based individualized production for each specific individual (inter alia, in my view, this should have taken place even yesterday). By Toffler, we are departing from mass society and will be personalizing everything. However, despite the million-copy circulations of his books (for example, in China), explaining the meaning of the "third wave", Toffler suggests that his studies failed to produce an integral picture and integral understanding of the current developments.

T. Freedman, an American researcher, defined globalization as an untamable integration of markets, nation states and technologies, enabling individuals, corporations and nation states to reach any place in the world more rapidly, farer, more deeply and more cheaply than ever before. Under such conditions, the ties between production and consumption have become immeasurably longer in time and space, with the entire misalignment of manufacturers' and end consumers' interests. Instead of conciliation of interests, we see their mounting polarization and uncontrollable growth of prices. Flenca, to realize the objective of human community development was not considered possible.

Many authors, who studied the given problem beginning from the 16<sup>th</sup> - 18<sup>th</sup> centuries and through to today (from mercantilism to M. Porter's theories and I. Wallerstein's "world systemic" approach), arrived to rather tough conclusions, such as:

- growth of globalization in the world is accompanied by the stronger social stratification within each country and in the world at large. For 25 years of active march of globalization in the late 20<sup>th</sup> and early 21<sup>st</sup> century, over 80% of the world wealth happened to be appropriated by less than 20% of the world population;
- today three billion people of Earth earn less than two dollars per day. One billion people do not have a permanent access to drinking water. Another billion humans are homeless. At the same time, however, the average daily income of Swiss citizens is equal to average yearly income of Ethiopians;
- owing to globalization, transnational corporations became the major actors in the world economic relations. The aggregate product of 500 largest TNC accounts for over 60% of gross global product. Many TNC are economically stronger than small and even some big states;
- for a long time, the currently developed countries have been developing more rapidly and productively than the rest of the world as they availed the unlimited monetary and resource base involved in production and consumption in the

rather limited space, and thus they plunged the whole planet into the global financial and economic crisis.

These conclusions need no additional comments. It is not incidental that the prospects of the mankind's future development have been in the focus of growing attention. As a result, we see an impressive number of long-term forecasts on the expected trends of global and regional development. The forecasters emphasize their concerns connected with the fact that economic growth in dynamic countries and in the world at large generates the growing consumption of natural (in particular, energy) resources, and that the rates of consumption exceed all ecologically admissible norms. In view of those analysts and forecasters, the modern economy should either be restructured radically (and such restructuring would cause big shocks and at least temporary decline), or reach the climax of its development and then get in the period of crisis and disruption of global economic ties. Realization of the latter scenario is fully evident these days.

So, as shown by analysis of global trends in formation of the desired model of human relations, in which manufacturers' and consumers' interests would be conciliated, the world rapidly has driven back in the opposite direction. These trends are the even more typical of Russia.

In the currently existing concept for construction of information society, **a specific human individual is only present** in the data register, in which he/she has his/her identification code, as a controllable subject for the needs of-governance at all levels. **In this concept, a specific human individual is missing** as producer and consumer of all goods, and this concept does not offer a possibility to conciliate producers' and consumers' interests in the real time and space and thus to reduce the existing disproportions between the time for production and turnover of commodities and money. In the nearest future, internet will **fully** satisfy the human demand for information by offering to people efficient instruments to obtain as well as to search, produce and transmission of information. Together with mobile communication progress, internet **fully** satisfies the human need in communication and in being able to coordinate one's own interests with those of others. Let me refer to an ample case in point. Probably, the biggest merit of the digital century should be seen in the fact that today the possibility of creative self-realization is available for actually every talented person, including those people who just 20 years ago for whatever the reasons did not have any chance to express themselves as representative of some or another creative profession.

Professions of "the letters" -- journalists, writers, and poets - provide the best illustration of "informatization of creativity". They no longer need to live in big cities and have extensive contacts in the literary environment in order to be able to publish their works. For them, it will suffice to write literally, interestingly and with talent. To deliver the manuscript, to undergo editorial alteration, to sign the contract and to receive the royalty - today all this can be done without leaving home, even if the publishing house is located at the other end of the world.

**Therefore the next strategic task is to form, in the real time, a mechanism for conciliation of all links (actors) in the chain of reproduction through to specific end consumers.** The shortest, in time and space, interconnection between the production links manufacturing the end consumer products, and the people, can be realized at the local (municipal) level of government; any other connection will be longer in space and hence in time. Such level would make it possible to integrate all spheres of material and non-material production in any regional complex being an organization component of the entire economic complex of Russia. The effect of direct times will be reached, as an absolutely independent and free associated producer must be faced with an associated consumer. The very fact of collision of interests between the counteragents from the two camps of economy, production and consumption, will bring the main sought effect - that is, synchronized movement of commodities and goods, plus reduction of the currently huge disproportion between the times of their production and circulation. Thus we would obtain the only possible instrument to remove all systemic reasons of the current global financial and economic crisis. Therefore, to abandon conciliation of interests through the higher center must be a mandatory condition in formation of an efficient mechanism of interconnection between production and consumption (or mechanism for conciliation of interests to be the basis for satisfaction of human needs), while at each local level it is necessary to build a most modern infrastructure for interconnection with each specific person that would provide for conciliation of producers' and consumers' interests in real time. The actors that could perform such role include information system of interconnection with specific people - that is, associations of smaller high-tech manufacturer companies, high-tech structures of commerce, education, healthcare, housing and communal complex, etc., as well as banking structures, financial institutions, civil society structures and other institutions.

An impressive number of similar segmental systems have been created already in Russia and other countries for development of education, medicine, trade, etc. One of the most ample case in point is found in the Moscow high-tech chain of "Utkonos" shops "at walking distance" ([www.utkonos.ru](http://www.utkonos.ru)).

Today internet shops trading with many groups of commodities, distant education, internet medicine and many other things (actually covering the whole range of needs) are available; the only thing to be done is to link all those in the shared information space at each local level. Another case in point - integrated information systems to provide and account targeted social services for population on the base of standardized individual social card. Such systems have been built already in the Samara, Tver', Nizhniy Novgorod, and Penza Oblasts, in the Krasnodar Territory and in other regions. **Therefore, at each local level, it is necessary, applying ICT, to build** an advanced infrastructure for intercommunication of producers of commodities and services with specific consumers. Such system will make it possible to conciliate their interests in the real time.

In this context, information resources become a most powerful productive force. ICT, being a super-modern means of instantaneous communication among people, will make it possible to pool their minds for perception, buildup and use of

knowledge relevant to the purpose of societal development. For the whole bulk of this knowledge to be used in the interest of each specific human individual, the human individual must be present in the system of communications socio-economically, organizationally, as well as in the sense of science-tech, law, etc.

Human individual must be present in the system of human relations, not as an object for some people to govern (manipulate) others, but rather as an equal-righted subject of relations with all his/her needs up to the need to enhance maximally his/her level of consciousness in relations with other people, to develop his/her spiritual and intellectual potential and to reach physical perfection.

Only in such conditions the Knowledge would really become a true productive force, as the use of unified mind of all people (through the means of communication, and eventually - at the level of thoughts) would generate new knowledge in the interest of each human individual. Knowledge rests in human heads rather than in engineered means.

The knowledge gained in the past is stored in different information means, while new knowledge is formed by nobody else but people. Therefore, it is necessary, first, to form a new development model, in which specific human individual will be present equally, together with his/her needs and capabilities at any moment of time to generate and receive new knowledge from the future. It is at this point that ICT, being a means of human communication, must play its historic role.

As we see, the new reality does not proceed from the past experience; rather, it is taking shape here and now from knowledge of the future. In the information society, acceleration of all processes somehow isolates or even rules out a chance to return back to the experience of passed days.

**Therefore, introduction, by applying ICT, of specific human individual into the system of relations as a producer and consumer of all goods, and conciliation of his/her interests in the real time, through these communication means, with interests of other people - this is the innovation, which, according to Shumpeter, will change the mode of material production irreversibly in history. This is the only way to turn the world irreversibly towards people, to overcome their troubles and to provide for their spiritual awakening.**

Only in the given form of human relations the public and private property shall become at the same time societal property, as the given property shall be formed by a direct way of communication with specific human individual. The energy of the regulating impact by the state must play a creative role in shaping of exactly such form of relations. If sorting out of different models for development of human relations is procrastinated (and such danger is now present in the minds of leaders of 20 countries), and if some elements of the system do not reach mutual relevance before all vital resources are exhausted, the catastrophe will be inevitable both in Russia and in the whole planet.

As for the need and the possibility to form such model, today Russia has unique advantages over other countries.

The need is predetermined by the fact that Russia is on the brink of financial default and social explosion.

The possibilities include the actually available:

- clear and scientifically based idea of the further development roads;
- possibility not to reconstruct, modernize, destroy and eliminate the old production, but, as the latter is almost entirely absent, to build anew and in the required form the high-tech consumer commodity production, resettable in the real time and oriented to orders from specific individuals;
- unique possibility - in the context of saturation of government and private-business structures by information-and-communication technologies as well as realization of "Electronic Russia", "Computer for Each Home" and other programs - to build as swiftly as possible the infrastructure of direct real-time human communication in real time and basing on that, to create the unified information space of Russia;
- undisputable willingness and possibility to accomplish the reform of local government bodies and to provide vista for formation of civil society within the framework of the new development model;
- possibility to expand the list of national projects through to the rage of all human needs and to realize as efficiently and effectively as possible;
- possibility to step over the development stage, at which consumer society would be formed and people would become the simulacra with low-level consciousness and sinister instincts, and to proceed right to the stage of new quality of life, in which people would develop comprehensively their spiritual and intellectual potential, improve physical health and continuously elevate their level of consciousness.

So far, huge financial resources are available in the country for realization of all above-listed tasks. To realize them, nothing else is needed but the political will of the state and its top leaders. Thanks God, all signs that this, too, will be available, are evident already!

Otherwise, there will be no prospect for development of Russia as well as of the entire world!