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World Futures
The Journal of New Paradigm Research

ISSN: 0260-4027 (Print) 1556-1844 (Online) Journal homepage: http://www.tandfonline.com/loi/gwof20

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To cite this article: Valentina M. Bondarenko, Ilya V. Ilyin & Andrey V. Korotayev (2017) Transition to a new global paradigm of development and the role of the united nations in this process, World Futures, 73:8, 511-538, DOI: 10.1080/02604027.2017.1357941

To link to this article: https://doi.org/10.1080/02604027.2017.1357941

Published online: 15 Sep 2017.

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World Futures, 73: 511–538, 2017
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ISSN: 0260-4027 print / 1556-1844 online
DOI: 10.1080/02604027.2017.1357941

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TRANSITION TO A NEW GLOBAL PARADIGM OF DEVELOPMENT AND THE ROLE OF THE UNITED NATIONS IN THIS PROCESS

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In his 2011 article "Global Bifurcation: The Decision Window" Ervin Laszlo notes that "we have reached a watershed in our social and cultural evolution. The sciences of systems tell us that when complex open systems … approach a condition of critical instability, they face a moment of truth: they either transform or break down." (p. 108) In this article we provide our own vision of this Global Bifurcation. This work stems naturally from the research highlighted in the article titled "Transition to Crisis-Free Development: A Myth or Reality?" that was published in *World Futures* (Bondarenko, 2014a). In our new article, we move forward suggesting that crises-free development is not only possible but is also very likely, and paradoxically the world is now going through the most challenging transition from one paradigm of development to another. Based on our previous research as well as the findings of the Fifth Report to the Club of Rome, we suggest reasons for the development and implementation of a megaproject featuring a new model of life so as to make the paradigm shift possible, exclude negative implications of the upcoming technological "singularity," and foster the achievement of an objectively defined goal of development, and this should reasonably require support from and direct involvement of the United Nations. The mechanism for implementation of this model suggests coordinating interests of the government, society, and business communities on each level with interests of particular individuals.

KEYWORDS: Coordination mechanism, Fifth Report to the Club of Rome, global bifurcation, goal, megaproject, new development paradigm, systemic crisis, UN, worldview.

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INTRODUCTION

In his article "Global Bifurcation: The Decision Window" Ervin Laszlo (2011) notes that "we have reached a watershed in our social and cultural evolution. The sciences of systems tell us that when complex open systems … approach a condition of critical instability, they face a moment of truth: they either transform or break down (p. 108)." In this article we provide our own vision of this Global Bifurcation.

This work follows naturally from the article titled "Transition to Crisis-Free Development: A Myth or Reality?" that was published in 2014 in *World Futures* (Bondarenko, 2014a). The article argued that transitioning to the world free of destructive crises is not only possible but is also attainable. The present article provides a brief insight into the fundamentals of research methodology and offers a more extensive line of reasoning to support the latter statement and suggestions for accelerated transition to this path of development on the basis of the findings of the Fifth Report to the Club of Rome (Laszlo et al., 1977). Currently, the issues of further social and economic development as well as sustainable development and acceleration of economic growth, both locally and globally, are not only addressed inadequately but keep snowballing. All this results from the increasingly worsening global crisis.

There is a long list of causes and factors for declining economic growth, regardless of what country or region we analyze (see, e.g., Alexander, 2016; Grinin, Korotayev, & Malkov, 2010; Grinin, Tsirel, & Korotayev, 2015; Korotayev & Grinin, 2012; Korotayev & Tsirel, 2010; Grinin, & Korotayev, 2010a, 2010b, 2011, 2014a, 2014b, 2014c, 2015; Korotayev, Zinkina, & Bogevolnov, 2011; Smith et al., 2016). But are these reasons and factors the root causes that hinder the economies of most countries in the world? Or are they the consequences of some underlying processes reflecting the effects of normal patterns of development and as-yet-unknown to researchers? And this is despite the fact that eminent economists warned about the growing instability in economics and politics and an intensifying global crisis resulting in uncertainty about the future as early as the last century (Bernanke, 1984; Friedman, 1956; Krugman, 1979). Nowadays, many people consider the number one reason to be the ineffective modelling of further economic growth as there are no apparent ways to reverse this trend, and no solutions have come up for any of the problems. Ben Bernanke, the former Chairman of the U.S. Federal Reserve System (FRS) stated that a victorious war or vigorous preparation for such a war could be the best way to lead the American economy out of the growing crisis (Polunin, 2015). Some Russian academic literature even features debates on the need for a shift to a different model of economic growth in Russia (Kudrin & Gurvich, 2014).

Therefore, we reiterate that the existing model of economic development cannot be changed until objective reasons for the origin and evolution of the global systemic crisis have been identified. With an understanding of those reasons, the society will be able to arrive at a model that will ensure a breakthrough and advancements in all aspects of human life and lay the foundations for transition to crisis-free development or at least proactive crisis management.

Many of the world's leading scientists have addressed these extremely challenging issues in their research work. Consider, for example, the well-known reports to the Club of Rome. However, there is not a country in the world that can boast of a long-term strategic crisis management plan or vision of the future.

Thus, we have to note that today more than ever there is a pressing need for a new settlement to the crisis that we have been witnessing both in Russia and globally. The search for a new evolution model and a new concept of human development becomes inevitable.

THE WORLDVIEW APPROACH TO THE CHALLENGES TO HUMANKIND DEVELOPMENT

More than 30 years ago, in an attempt to shed some light on the inconsistencies of the Soviet Union's economy, we concluded that the then existing economic theories and scientific knowledge in general had run out of their explanatory capabilities in the search of ways to overcome negative developments. The main reason behind that is that so far scientific knowledge, including economic knowledge, has been gained through obtainment and processing of empirical evidence of the past and subjective judgment based on data interpretation. Take a look at references to contemporary textbooks (e.g., macroeconomics course books), and we will find that they are fully based on the content that dates back to the second or third quarters of last century (e.g., Romer, 2015). The author of another book on the theory of economic growth, Sharaev (2006), writes, "In the theory of growth, just as in macroeconomics and mainstream economic theory, research is closely linked to conclusions verified and confirmed through empirical developments, or it is questioned, disproved and often initiated by empirical studies." … "Empirics of economic growth have expanded the range of countries and periods under study and revealed material gaps between the basics of neoclassical economics and reality. There is a fair amount of such factors and determinants that impact long-term growth, and the list is neither definitive nor exhaustive. Among other factors and determinants, determinants defined by subjective behaviour of people, society and government are of major significance. Considering the objectives defined by new empirics, the theory of economic growth is focused on the search for models that can help to explain the impact of subjective (behavioural and institutional) parameters on long-term growth. …" "However, the progression of empiric studies has given rise to certain questions being addressed to the fundamental theory with no answers found. Furthermore, persistent inconsistency with previous stylized facts has been revealed and required clarification, and additional determinants of growth have emerged beyond the core theory. Ultimately, the key driver of sustainable growth in the neoclassical model, i. e. technological progress seen as a 'black box' of a kind, requires increasingly more explanation" (pp. 23–24).

This is why it has become quite obvious that solving existing problems and identifying the source of inconsistencies in systemic development require, in terms of political economy, the only possible form of production relations, or relations between people in terms of production, distribution, exchange, and consumption of social benefits, and new adequate productive forces. Thus, we

have been looking for ways of theoretical thinking in political economy and for appropriate methodological tools to get an unbiased view of the human society development free of empirical build-up. This, in turn, would enable us to identify objective reasons behind the origin of crises and to suggest a possible model for human relations that will suit technological advancements that come to life in human society at an incredible pace. This is achieved through the application of the worldview approach.

The worldview approach is based on:

- Identifying the goal of humankind development on Earth, which is a human being with a set of scalable needs and their satisfaction, which is evolving into a spiritually, intellectually, and physically perfect human being with a high level of consciousness;
- Identifying the need for applying a holistic, systemic, and interdisciplinary approach to all aspects of human society development;
- Identifying a single measure for all and any processes and phenomena (and this measure, from our point of view, is nothing else but time);
- Identifying a single performance criterion for the assessment of humankind development (i.e., the time between the need to achieve a common goal and the reality where the human society finds itself at every moment, and each particular person in relation to this goal). From this perspective, if the time from when the need of a particular person arises to when it is fulfilled tends to shrink, humankind demonstrates correct and effective progression toward the goal.

Thus, our search has resulted in a new cognition methodology that helped us identify some patterns of development of human society. In this article, we will attempt to reinforce our arguments in favor of the new cognition methodology including identifying the objective goal of humankind development.

OBJECTIVE GOAL OF HUMANKIND DEVELOPMENT

Since ancient times, the goal of development of human society has been the focus of research for numerous scientists and experts. For example, Immanuel Kant, a German philosopher and the founding father of classical German Philosophy, in his article titled “Idea for a Universal History from a Cosmopolitan Point of View,” explained the world history as a goal-oriented process. He was looking for a way to reduce history to a set of laws, and he believed that this law of history must by all means be the law of development (1963). Immanuel Kant saw the solution of this problem in connecting points in history to their initial goals, which could make history regular in nature. Subjecting history to law means making it move towards a goal. In other words, Kant suggested a teleological approach for understanding history. He proposed an attempt to discover, in the meaningless course of human routine, the purpose of nature which could potentially underlie the history of human beings living without a plan of their own. According to Kant, the ultimate purpose of the world’s existence is to fully develop the rational innate abilities of a human being (Kant, 1963).

Some authors of the reports to the Club of Rome have also set out to formulate the goal of the global society's sustainable development and based on that to offer new ideas for reshaping the international order (RIO) and to find a new ideal form of social organization of people (Tinbergen, 1976). Particular attention is paid to this issue in the Fifth Report to the Club of Rome titled "Goals for Mankind." In this report, global problems are analyzed as a system of goals and values, which suggests a revolutionary transition from quantitative analysis to qualitative analysis. According to Laszlo et al. (1977) this requires the goals of global development to be formulated and presented to the global community.

Driven by the challenge of formulating the goals of global development, Ervin Laszlo and his working group analyzed in the course of their study the "atlas of goals" both on national and transnational levels, including various regions, churches, multinational corporations, countries, the UN, and other international organizations. They interviewed numerous experts from various professional fields and proposed four global goals. First and foremost, the goal is to ensure global security (i.e., to halt or reverse the arms race, prevent wars and conflicts, and repudiate violence). The second important goal is to resolve the food crisis, swiftly and efficiently. To achieve this goal a system satisfying humankind's need for food must be created and famine should be eliminated. The third goal calls for creating a system for global control over utilization of energy resources and raw materials, which will facilitate the transition to sustainable and environmentally friendly energy consumption, control over technologies, and promotion of efficient management of natural resources. And the fourth goal is global development toward a better quality of life and social justice in terms of distribution of both physical and cultural wealth (Laszlo et al., 1977).

To achieve this goal, the authors propose several scenarios of the "revolution of world solidarity." They hope that scientists, religious leaders, and business representatives of different countries could impact one another and all together they could address critical issues and work out general solutions. Unfortunately, these calls for coordinated efforts could hardly be heard in the existing model of humankind development. Moreover, considering the systemic approach to the development of human society, setting multiple goals at the same time may result in failing to achieve any one of them, which is usually the case.

A global network of social scientists is determined to continue Ervin Laszlo's seminal scientific work (since 1981) and to study the system of humankind changing goals and values, including their impact on social, political, economic and cultural life. Ronald Inglehart, an American social and political scientist, has initiated these studies (see, e.g., Inglehart & Welzel, 2005). Today the World Values Survey (WVS), with the Association's Headquarters in Stockholm, Sweden, brings together hundreds of social scientists from all over the world. The WVS has conducted social surveys in almost 100 countries, which contain 97% of the world's population. Six waves of surveys were conducted from 1981 to 2014, including interviews with almost 400,000 respondents (see, e.g., Inglehart, 2015).

The WVS strives to help scientists and policy makers understand changes in the beliefs, values, and motivations of people across the world, and provides some evidence that there is a substantial (and rather complex) correlation between

empirical data on the economic status of the counties (Gross Domestic Product [GDP]) and subjective interpretation of happiness and wealth (e.g., Korotayev & Khaltourina, 2009). Social scientists involved in the program used these data to publish more than 1,000 articles in 20 languages, including publications by Ronald Inglehart himself (e.g., Inglehart & Welzel, 2005) and scholars from Russia (e.g., Khaltourina & Korotayev 2010; Yasin, 2003).

These surveys appear to be very important for understanding the current situation and the range of global changes in various countries of the world today. However, this survey is, first of all, time consuming. Empirical data and subjective judgments of people are acquired and processed once every 4–5 years. While the findings are being published, the global situation may change, and those changes can be dramatic considering the pace of today's life. Nowadays, in the era of information technologies, data acquired this way become outdated sooner than they are transferred, processed, and published. Therefore, those data become less useful. Second, interviews are held with people representing various groups of the population ranged by the degree of poverty and wealth, level of education, and so on. The next step was to carry out a comparative analysis and from that followed a conclusion that goals and values differ from person to person. But, unfortunately, the data acquired from interviews with different social groups at different stages of their development make it impossible to identify one common objective goal (value) of development.

In 2000, under the auspices of the United Nations, world leaders accepted a universal concept for reduction of poverty in all of its numerous manifestations. This concept is included in the eight Millennium Development Goals (MDGs): (1) Eradicate extreme poverty and hunger; (2) Achieve universal primary education; (3) Promote gender equality and empower women; (4) Reduce child mortality; (5) Improve maternal health; (6) Combat HIV/AIDS, malaria, and other diseases; (7) Ensure environmental sustainability; (8) Develop a global partnership for development. Over the last 15 years, human development has been driven by these goals. The UN has now published the Millennium Development Goals Report 2015 (UN, 2015a) to provide an annual assessment of progress toward the Goals. The Review presented at the Meeting of the UN Information Centre in Moscow on July 7, 2015 provides analysis of the reported data, demonstrating that despite the progress, none of the Goals have been achieved without systemic gaps identified. According to Lilia Ovcharova, director of the Institute for Social Development Studies at the Higher School of Economics and one of the contributors to the UN Report, in that process, countries faced two key barriers—abundance of military conflicts and crises significantly disrupting the progress achieved and unequal access to primary services (Ovcharova, 2015). Many countries are presently engulfed in wars and civil unrest, which has caused the quality of life to decline and resulted in the largest number of refugees and internally displaced persons in the world since World War II (60 million people) (Ovcharova, 2015). It is noteworthy that even today, 16 years after the MDGs were accepted by the UN, there is still an ongoing search for a new concept of sustainable development and ways to implement it. More and more monographs, articles, and textbooks for university students are being published on this subject (see, e.g., Ilyin & Ursul, 2014;

Ilyin, Ursul, & Ursul, 2014; Korotayev, Goldstone, & Zinkina, 2015; Zinkina & Korotayev, 2014).

This confirms our idea that in order to start implementing the Millenium Development Goals and sustainable growth, we must first find the objective causes behind the global systemic crisis, wars, poverty, and other negative phenomena. Once we understand those causes, the society will be able to find a model to ensure the implementation of the goals, provided that those are considered to be intermediate goals of the common objective development goal.

And there is more to support the analysis of the above-listed approaches for identifying goals, which we have repeatedly mentioned in our works. Today, humankind's development is marked by the timelines between the need for implementation of the goal and satisfaction of such need in all its aspects and within various time domains. The greater the distance between human communities, regions, countries, and systems, the harder, if not impossible, it is to establish a dialogue between them and to ensure peace. When civilizations, peoples, nations, large and small communities, and individuals find themselves in *different linear and spherical time domains*, they have different levels of consciousness, which prevents them from ever aligning their interests and understanding one another. This is what underlies the origin of all woes of humankind and makes communities migrate around the globe in search of a better life. This implies that crisis in global development, wars, terrorism, riots, man-made and natural disasters, and other negative developments originate from the underlying laws of development that are common in nature and humankind. Moreover, as long as people live in different linear and spherical time domains, there will be a semblance that the planet is inhabited by numerous co-existing local civilizations different from one another (Bondarenko 2014a). This is why it is extremely important to set a new direction for the development of humankind so that all people on Earth are equally "in-between." In this case, the level of consciousness of each individual will be balanced with other people's levels of consciousness, and they will be able to coordinate their interests in the identification of a model for their existence. Hence, we will comprehend that we all live to achieve a common goal of perfection. In all other cases, as we set out in all of our previous articles and would like to emphasize again, development may bring totally different, opposite results: dead end, reverse development to start anew, or a catastrophic finale (i.e., "apocalypse").

Shortening the time between when an individual recognizes the need for and possibility of achieving the objective development goal and when the conditions to fulfill this need are created will allow better management of the development. Only in this case will humankind start progressing toward the goal in a stable and effective way to the benefit of each particular person and in alignment with the interests of everyone else.

Due credit should be given to those scientists who address the issue of determining the development goals and emphasize that, "like a living creature, a nation cannot exist without a goal and orientation. Planning does exist, but the question is: how are things planned, to the benefit of whom and with what methodology? The goals of development must refer to human qualities …" (Buzgalin, 2015, p. 1).

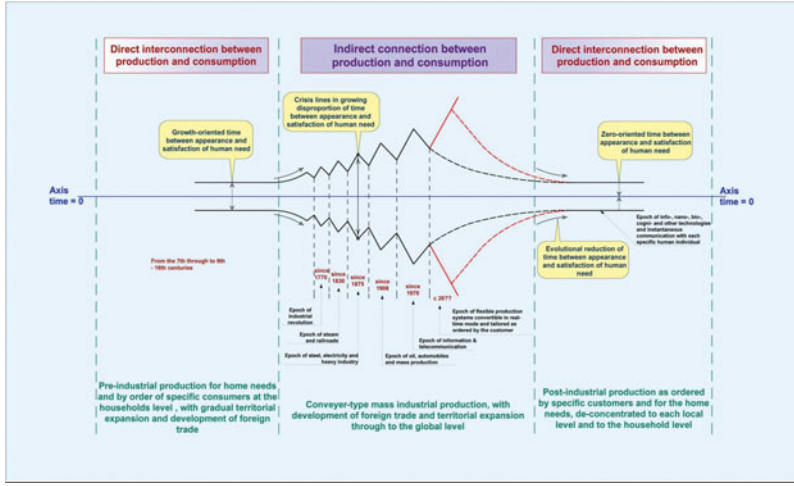


Figure 1. Representation of human society development.

TWO PARADIGMS OF THE HUMAN SOCIETY DEVELOPMENT

The worldview approach based on the application of new methodological tools makes it clear that for many centuries there have been two major paradigms in the development of human society (Figure 1).

Paradigm 1 implies a direct relationship between production and consumption, which is short in terms of time and space. It began when manual labor was used to produce and handle the majority of goods available to humankind, and all the goods were consumed almost immediately. This is the pre-industrial type of production for one's own needs and on a made-to-order basis for a particular consumer at the level of a household. Therefore, the time between the origin of a need for a particular person and the satisfaction of such need was the shortest. But since the goal was not recognized, manufacturing capabilities were limited, and the range of needs was narrow, undeveloped, and inaccessible for a majority of the population. Then the development was challenged by some troublesome times, food riots, epidemics, uprisings and wars, a great number of deaths, demographic and environmental disasters, urban destruction and decay, downturn in trade and crafts, and so on (see, e.g., Alexander, 2016; Goldstone, 1991; Korotayev, 2014; Korotayev & Khaltourina, 2006; Korotayev, Malkov, & Grinin, 2014; Korotayev, Malkov, & Khaltourina, 2006; Korotayev et al., 2011; Nefedov, 2004, 2015; Turchin 2003; Turchin & Korotayev 2006; Turchin & Nefedov, 2009). The development of human society toward the goal was spontaneous;

Paradigm 2 implies that the relationship between production and consumption is mediated. This development paradigm originated at the outset of technological developments, division of labor, emerging markets, and so on. Progressive geographical expansion and development of foreign trade brought about the transformation of the first direct development paradigm into the second mediated

one. Its development was accelerated by the transition to industrial technologies. Production flow as well as domestic and foreign trade were evolving. Production and trade were focused on the mass market to achieve the only goal of generating as much profit as possible. Demand from the abstract end consumer is met through a spontaneous, archaic, market-based form of communication mediated within some time and space. The needs of an individual are not considered. Under these conditions, uncertainty of consumption resulted in an increasingly growing disproportion between the time of production and the time of circulation of goods and money and, finally, caused them to grow utterly desynchronized. The time of circulation tremendously exceeds the time of production. A huge gap appeared between the dynamics of physical and monetary factors of production. The development toward the goal is spontaneous with evolution followed by involution, and vice versa (see, e.g., Grinin et al., 2010). Therefore, cycles and crises, chaos and complexity, and many other negative trends in the development of human society resulting from this development paradigm repeat themselves, but on a greater scale and ultimately with a greater probability of a catastrophe. Moreover, that increase in the time of circulation of goods and money compared to the time of their production is the underlying reason for inefficient use of all resources, including human resources, or irreversible losses.

Combating the financial crisis with the tools of monetary policy only aggravates this problem with the movement of the real product and money, and creates a greater disproportion between the time of production and the time of circulation of goods and money. This is exactly why Raghuram Rajan, president of the Reserve Bank of India, believes that monetary policies of the developed countries create an environment similar to the one that triggered the Great Depression 80 years ago. Raghuram Rajan presented this outlook at the International Conference on Economics hosted by the London Business School in June 2015. Rajan's words became even more significant after his predictions for the 2007–2008 crisis back in 2005 and his record of service. Consider, for example, his work as a chief economist with the International Monetary Fund (IMF) before he took over the leadership of India's Central Bank, and his authority in the world of economics. "I am concerned that in order to accelerate economic development we are slowly drifting into the same problems that existed in the 1930s," Raghuram Rajan said at the conference in London. "I think this is a universal problem. This is not just a problem of advanced or emerging markets. It is a much broader and more complex" (Manukov, 2015, p. 2).

When discussing the problems that are pushing the world to a new Great Depression, Rajan mentions that central banks of many developed countries have put efforts to spur sluggish economies after the financial crisis through ultra-low interest rates and quantitative easing (QE). The U.S., Japanese, and European banks have resorted to these measures in recent years. Raghuram Rajan fears that quantitative easing programs may cause the developing countries to retaliate to maintain their share in the markets, as it happened in the 1930s. He says, "The problem is that while trying to achieve growth through QE out of nothing, we do not create this growth but take it away from one another" (Manukov, 2015, p. 1). All the more so as the U.S. FRS created several trillions of dollars for the three

QE waves. They have not demonstrated any spill-over effects yet since the velocity of money is still lagging behind the pre-crises levels (Manukov, 2015). Thus, the fears expressed by Raghuram Rajan that the world may be slipping into a new Great Depression are reasonable.

Consequently, the financial crisis is increasingly transforming into economic, political and, ultimately, systemic crises. This is the dominant model today.

The present-day systemic crisis is the peak and inevitable decline of this development paradigm. The model of human relations based on indirect relationship between production and consumption has run its course and became the basis and the source of almost all major adverse events.

Poverty and inequality, emergence of the Bretton Woods System, creation of controlled chaos systems and systems for manipulation of human consciousness, economic slowdown, rise in prices and inflation, de-industrialization, terrorism and corruption, some "natural" anomalies and disasters, information and real wars with numerous victims and losses of property—all these are links of the same chain, a product of the mediated development model. The recent events in Ukraine, the European Union, the United States, Russia, and other countries of the world are the result of this development paradigm. The factor of time in this paradigm of human relations plays the most negative role.

Any attempts and real efforts that have been recently made to reshape the existing model of development (e.g., through renunciation of the Bretton Woods System and the dollar as the only world currency), will only lead to greater disproportions. In its efforts to create an equivalent of Western international financial structures, China took part in the establishment of a Brazil, Russia, India, and China (BRIC) international bank, a currency pool, and a bank for Asian infrastructure development and emerges as one of the world's leaders in terms of its influence in Asia and other parts of the world (see, e.g., Grinin et al., 2015). China is already using its gold holdings and foreign exchange to provide assistance to the weak, struggling nations, to which China is going to extend loans. For instance, China provides support to Venezuela and Argentina, and makes similar promises to Russia, meaning that China is strengthening its position as a lender of last resort for many countries and is reshaping the global economy dramatically. Under these circumstances, there is no guarantee that Chinese supremacy will not occur, independently of whether Western supremacy in the world economy will or will not be terminated. If the yuan, which accounts for over 80% of all trading operations and more than 90% of all international transactions worth hundreds of trillions of dollars, becomes the world reserve currency, there is no guarantee that China, like the United States, will not begin printing national money without any limits. Once it ceases to be the world's factory supplying its goods throughout the world, China may replace them with only one commodity, namely money, and make for another Bretton Woods system or a greater gap between real products and money. Disproportions will increase, and the consequences are clear.

The same negative consequences will result from evolvement of the existing development model, for example, consolidation of BRICS, the Eurasian Union or any other union, since the new environment with a common global market based on the consolidated space offering free movement of goods, services, capital, and

labor will not allow for new powerful centers of economic development as, first, it maintains and increases the imbalance between the time of circulation of goods and money and the time of their production. And second, because modern countries have different "in-between" time positions, meaning that they are at different levels of development compared to the objective development goal, and they will never be able to get their interests coordinated.

POSSIBLE OPTIONS FOR THE TRANSITION TO A NEW DEVELOPMENT PARADIGM AND CORRESPONDING CONSEQUENCES

We can see that the existing paradigm of human development represents mediated relationships between people that are not consistent with the present era of hypervelocities, digital, informational, nano, and other technologies of the 21st century, and the employment of these technologies is not yet intended for implementation of the objective goal of the development of human society.

And here is the objective reason why interests of a nation, business, and community became too different in the vast "in-between" domain, and they do not match the interests of an individual. Currently, the world objectively finds itself in the most challenging time period, the period of transition from one development paradigm to another (Figure 2). According to Christopher Coker (2015), professor of International Relations at the London School of Economics and philosopher of war, "Nobody wants to live in the days when the world order is breaking down. These are really dangerous times" (p. 1).

The biggest priority now is to drive development toward the objective goal in a conscious manner and not by trial and error. Indeed, we need a new model of development. But what should it be like? Some scientists suggest "that this model must combine strategic planning and self-organized markets, and a continuously growing private sector supported by the government. The key element of this concept is harmonization of interests" (Buzgalin 2015, p. 2). To substantiate these suggestions, Asian and Scandinavian experiences provide examples.

Let's have a closer look at China. The world witnessed the Chinese economic miracle called a socialist market economy. As some researchers of China note, this economy incorporates the systemic approach and determines the way a modern economy can and must develop. As mentioned in the previous section, our studies based on the worldview approach have shown that the Chinese economy is ineffective. For example, research conducted by the National Development and Reform Commission and the Academy of Macroeconomic Research showed that, in 2009–2013, USD 6.8 trillion of investment was wasted because of the Chinese government's endeavors to stimulate economic growth and hyperactivity of the construction industry. During that period, nearly half of all investments in the Chinese economy were ineffective. Evidence of this can be found in ghost cities with empty high-rise buildings (Figure 3), unused motorways and abandoned steelworks (Grinin et al., 2015; Nevelsky, 2014). Similar examples of inefficient use of all resources, including human resources, can be found in every country of the world.

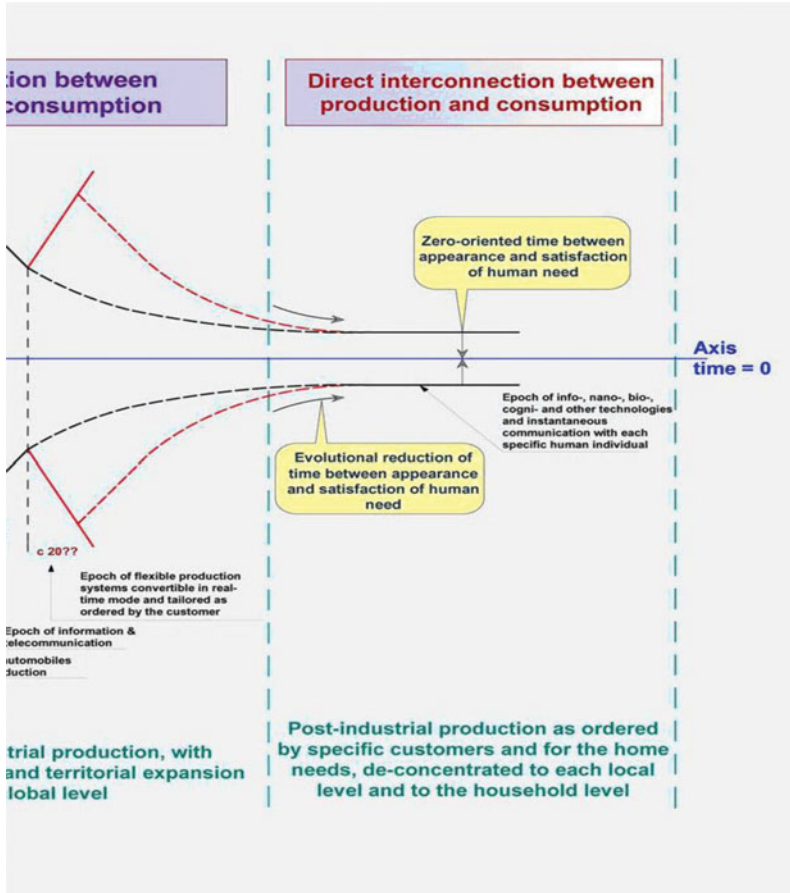


Figure 2. Representation of transition to the new (first) development paradigm.

While demonstrating a very high level of income inequality and inevitable reorientation from foreign trade to the domestic market, the growth rates of the Chinese economy are plummeting. "Persistent slowdown of the Chinese economy within the next years may lower global economic growth below the level of 2%, which is interpreted as a recession," as Ruchir Sharma, head of Emerging Markets at Morgan Stanley Investment Management, one of the world's largest investment banks explains. "The next global recession will be made in China," he predicted in his interview to Bloomberg. According to Sharma, "over the next couple of years, China is likely to be the biggest source of vulnerability for the global economy" (Los, 2015). This vulnerability is confirmed by many other examples as well. For instance, "Chinese corporate debt is estimated at USD 16.1 trillion, or 160% of GDP, which is twice as much compared to the USA. Experts see the reason for such a big debt in Beijing's pursuit to stabilize economic growth. Wang Tao,



Figure 3. New ghost cities with empty high-rise buildings.

Chief China Economist at UBS (Switzerland), whom the agency quotes, believes that the current situation may lead to 'a crash landing' of the Chinese economy. He emphasizes that over the past few years Chinese officials have been trying to stimulate capital inflows in the real economy sector. But now corporate incomes slow down as the prices decrease, which makes debt repayment even harder" (IA Lenta.ru 2015, p. 1). Another example can be found in the recent falls in the Chinese stock market. On July 27, 2015 the Chinese stock market tumbled twice, the second time by 8.5%. This marked the record-breaking fall of the Chinese indices in the past 8 years (IA Interfax, 2015). This evidence supports our assumptions about the ineffectiveness of the Chinese model (Grinin et al., 2015).

The Scandinavian economic model, as many economists point out, entails, inter alia, the largest extent of government interventions in the national economy, the highest level of GDP redistribution through the national budget, and at the same time the lowest level of corruption, bureaucracy, and abuse. This is also possible because the Scandinavian system is based on truly democratic principles, when the government acts transparently and is controlled by a network of civil society institutions. As far as the Scandinavian economic model is concerned, using the worldview approach we can state that, on the one hand, redistribution-based relations not directly related to labor input ultimately suppress motivation to increase labor productivity. On the other hand, there is an example of Iceland that was recognized in 2007 as the best country to live in, but in terms of area and population this country is equal to our municipalities, although, unlike them, Iceland is financially autonomous. Moreover, with the use of information technologies Iceland, peacefully and without a revolution, shifted to direct and open democracy. That is, they managed to get individual interests of each particular person taken into account, and added this to their new Constitution. The first line of the fundamental law says, "We, the people who inhabit Iceland, wish to create a just society where every person has equal opportunity." This is the preamble of the Constitution (IA RSP, 2013).

Therefore, we can conclude that the existing model of development represents mediated relations between people, who are not consistent with the present era of hypervelocities, digital, informational, and other technologies, and, on the other hand, it is rather ineffective and tends to exhaust all types of resources. All this multiplies as long as the development towards the objective goal occurs by trial and error, unconsciously, or as the model is denied. Or it occurs in a conscious way, but to only benefit a limited number of people and their individual goals. This is why transition to another path of development is of the highest priority. But this path must make for development towards the objective goal in a conscious way, through evolutionary, irreversible, and continuous minimization of the "in-between" time and full achievement of the goal.

The worldview approach not only enables us to objectively see that the transition back to direct relationships that are typical of the first development paradigm is not only practically inevitable, but also the way to shape another model of human relations and arrangement of life provided that the objective development goal is met. It only becomes possible with the emergence of digital and other technologies of the 21st century, through which production aims to meet the needs of each particular person again, and no excess produce is left, and with digital equality in terms of access to wealth in its full diversity. Only digital equality between particular people, equal access to wealth based on ordering, as well as coordination of people's interests at each local level through self-management, will allow to eliminate all systemic shortfalls in social and economic development of each country. This condition, being the only one possible, will ensure security of the person, his/her neighborhood, region, country and the world as a whole.

The worldview approach is the only way to solve the complex tasks of coordinating the joint activity of all economic agents and optimising their relationships in a fundamentally new social environment. Thus, transition to the direct relationship between production and consumption makes it possible to exclude the root cause of the systemic crisis and shift to an evolutionary path toward the development goal.

Figure 4 shows a new model of living arrangement. This is a new model of relations, and it must develop on each local level simultaneously. Information technologies adequate to these relations will allow the creation of a mechanism for coordination of interests of a government (self-governing authorities), society, and business with the interests of an individual toward the sole goal of creating an environment where such individual would be able to attain perfection. Reasonably so, Ervin Laszlo (2012, p. 3) emphasizes that "deliberate movement towards a well-organized system of cooperative communities that are focused on the common goals of maintaining the system of life on the planet is vital necessity." More details on this model of living arrangement can be found in other works of the first author of this article (Bondarenko, 2014b, 2015a, 2015b).

Below we give some information in support of our theoretical implications. Figure 5a shows unsold cars. There are many parking areas like this packed with new cars. Tens of thousands of cars are manufactured every week, but they hardly sell. There are more cars than human beings on our planet. The number of extra cars is ever growing.

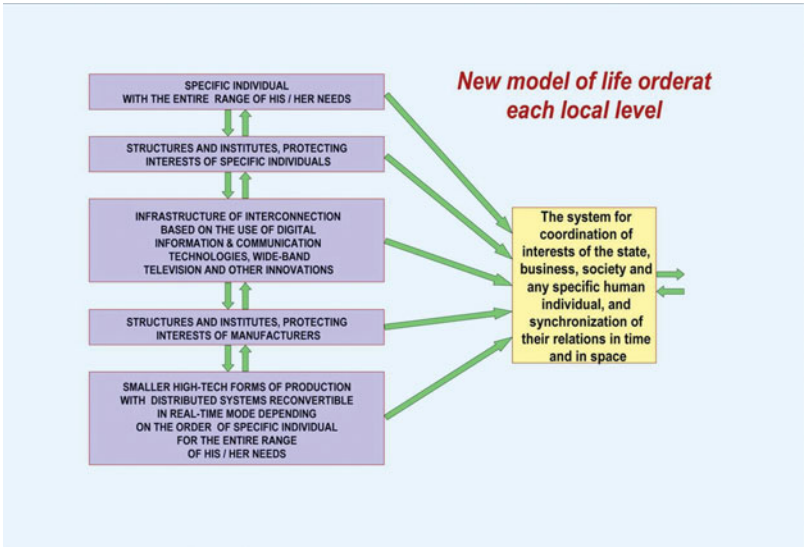


Figure 4. Representation of a new model of living arrangement.

The solution, however, lies in digital manufacturing. Figure 5b represents the first small-size town car assembled from 3D-printed parts. The inventor of this car believes that his project is the forerunner of a real revolution in the automotive industry, and the future of the automotive industry will be shaped by multiple small independent companies that create unique projects, and these can be found on each local level. 3D-printing technology will enable them to launch a wide range of diverse car models different from one another.

Similar examples can be given for almost any human needs. Using the existing and future digital additive technologies any physical thing could be produced almost instantly. Widely available digital technologies in industry are already challenging the traditional business models specific to the mediated model of development, since digital production rests on personalization, that is, production for a single-person "market."

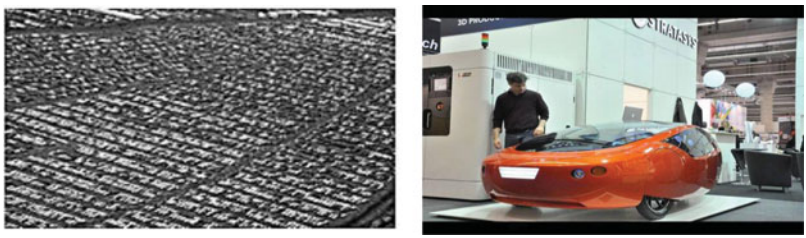


Figure 5. Flow production and digital manufacturing of cars.

These examples are fully indicative of the fact that the paradigm of human relations based on a mediated relationship between production and consumption has run dry with regard to flow, or mass, non-targeted production. This model is very costly and rather inefficient, it has caused most of those negative and (in some cases) catastrophic consequences we are witnessing today. There is already some evidence of the laws of the human society development identified theoretically through the worldview approach.

At the same time, there is another side of the digital revolution in industry and other areas that increases the time between the need to achieve the objective development goal and today's reality dictated by the model of living arrangement. In other words, transition to a new unmediated paradigm of development will occur sooner or later, but it alone does not guarantee that this will happen to the benefit of a particular person for him/her to attain perfection.

For example, U.S. military experts engineered a technology for cooking food under combat conditions using a 3D printer. American scientists, partnering with a research team from the Massachusetts Institute of Technology, have designed a 3D printer capable of making food following some pre-defined parameters. Those parameters include calories, proteins, carbohydrates, and vitamins. They consider preferences of soldiers and allow for a bigger variety of food in the combat ration. Therefore, by using the 3D-printing technology the U.S. military seeks to improve combat readiness, extend its potential, and enhance military units' effectiveness.

Another example can be found in the ongoing crisis and decreasing purchasing power, the existing retail sector, as one of the key elements of the mediated development paradigm, is searching for new ways to expand its impact on consumers. Previously, neuro-linguistic programming (NLP) technologies were used to influence the customer, boosting sales and generating profit, but digital technologies have replaced them. They include interactive digital assistants used for promotional purposes, and in addition 3D printers in e-commerce to print goods in a specially equipped delivery truck while on the way to customers (Figure 6); they also include technologies offering to carry your physical presence over into the virtual world using mirror touch screens.

The need for such systems is supported by the fact that "the time lag between the receipt of an order and delivery of goods to the customer potentially decreases the level of customer satisfaction and has a negative impact on revenues" (Quirk, 2015).

On the one hand, this means a decrease in the demand for warehouse premises but, on the other hand, the stock of goods becomes endless and flow production of goods is drawing toward trade. Thus, the mediated development paradigm is supplied with new opportunities for growth.

However, the greatest risk of prolonging the mediated development paradigm lies not in the aforementioned digital technologies but in that retailing becomes a subject to virtual-reality technologies, promotion of wearable technologies, and technologies offering to carry your physical presence over into the virtual world using mirror touch screens (Bird, 2015), and it becomes capable of influencing each customer's mind individually. The Internet of Things (IoT) gains momentum

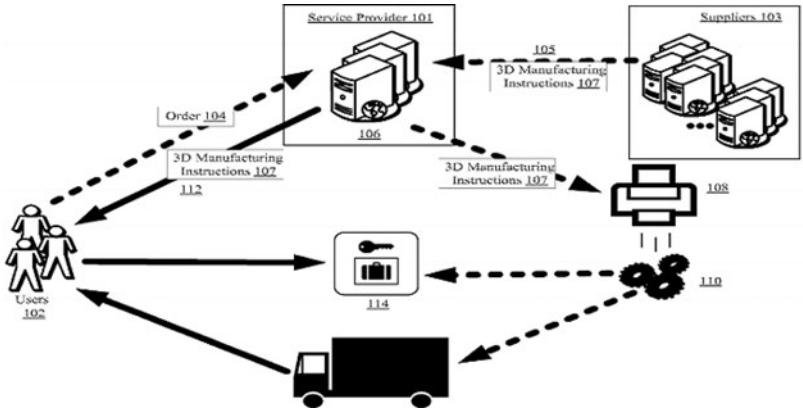


Figure 6. 3D printing of goods in a specially equipped delivery truck while on the way to customers.

and serves as a network that enables physical objects to communicate without requiring human interaction and mind.

In retail, these technologies pursue the same objective of having an impact on a human being so as to trap a person and promote sales. Digital technologies allow remembering the customer's search queries, which makes software more personalized when used often (Sinha-Roy & Richwine 2015).

According to recent research conducted by ResponseTap, 73% of respondents representing the business community stated the information on individual purchasing experiences was of great importance. Nowadays, dominance is potentially assigned not to the Internet that offers human-to-human interaction, but the IoT. The inventors of these systems believe that pretty soon big customer data are likely to transform to super data. Using them, the IoT technologies will be able to collect and interpret information, and send findings directly to marketing specialists. As we can see, all this predetermines Artificial Intelligence surpassing that of humans.

Therefore, in the retail sector there is also a tendency toward our own "singularity." We refer to the point where the time between the origin of the need for some product and availability of this product for purchasing approaches zero, where the digital and physical retail worlds collide, and the borders disappear; when traditional stores become as "smart" as their Internet peers (or even smarter); when purchasing data and history are instantly registered and stored in the system; and the level of Artificial Intelligence impresses customers regardless of where they pick and buy products. Soon there will be no borders between offline and online trading—"retail singularity" or, rather, technological singularity in commerce (Rees, 2015). An American scientist Vernor Vinge wrote about this in 1993 in his article "The Coming Technological Singularity: How to Survive in the Post-Human Era," together with other scientists (Hanson, 1998; Vinge, 1993), including Russian researchers (Novoselov, 2001). According to Vinge, "singularity" is to occur as soon as "in thirty years (i.e. in 2023), when technologies allow for super-

human intelligence creation. Shortly afterward, the age of human supremacy will inevitably come to an end." (Vinge, 1993) Whatever the case, according to Vinge (as well as Stephen Hawking and other prominent scientists), the Apocalypse is still far away. We will take a closer look at Vinge and Stephen Hawking's findings below.

A similar situation that shows that the world stands on the brink of technological singularity is observed when "smart" cities of the future are created. The first smart city appeared in South Korea on a man-made island. This largest project for construction of a "smart" city is called Songdo and it is being implemented by Cisco, 3M, Posco E&C, and United Technology (IA Mico. Technologi, 2014).

Songdo was established to become an important business hub in northeast Asia, and the developers expect the city to attract many companies that wish to engage in trading and business activities in this region. Similar objectives are set when designing smart city concepts in other regions of the world. Such projects are included in the urban development plans of China and India. Traditional cities and towns are becoming "smarter" as well. A new smart city called Innopolis is being created near Kazan in Russia. The developers are pursuing the goal of developing high-tech businesses (Shchukin 2015).

But what makes smart cities so different? All systems for sustaining life in each building of a smart city intercommunicate through a single center. A variety of robots and automated solutions are everywhere, including garbage collection, skyscrapers windows cleaning, traffic control, trading, and so on. All this is done by smart machines, not people.

A single network may power a fridge and a multi-cooker, traffic lights at an intersection and, say, automatic equipment at a power plant. City objects start living on their own with minimal human intervention. The weather station registers precipitation and temperature changes, while the signal from it is transmitted to the air conditioning system in every office making it adapt to new conditions, and a coffee machine makes hot coffee to greet you because your car has already communicated your arrival at the parking place. There are many more examples, but we should remember that the focus here is not an individual's way of living but rather a streamlined housing and utilities infrastructure, security and life-support systems, and so on. In other words, the purpose of smart cities is to create an environment for businesses and scientists who invent high-tech systems, and to try out the smart city technologies for the sake of their subsequent deployment in order to generate profit, but not the people who will inhabit them.

This is why the smart city concept has got both supporters and critics. The critics say that a smart city offers a human being many opportunities, but at the same time it makes him/her a small dot on a huge screen that displays where the person is, and what he/she is doing at any moment of time. According to Adam Greenfield, the author of *Against the Smart City*, the concept of a city as a huge high-performance robot is attractive for major IT companies, like IBM and Cisco, which look forward to big municipal contracts. It is of no use to individuals and communities (Beresneva, 2015).

Using the example of Songdo, experts began to discuss another problem of a smart city, besides the constant monitoring of every person, when the Control

Centre provides images of people at every corner of the city, 24 hours a day, 7 days a week. There is a risk of so-called digital inequality. It turns out that complete integration into the urban environment is only available for a person who owns an advanced gadget with all applications installed. Citizens who do not have up-to-date smartphones for whatever reason become deprived of most of their rights and find themselves disconnected from the vast majority of crucial processes. For example, in a smart city they will not be able to choose to make a payment either online or in the same old way through a bank office. They will not be able to buy a train ticket at a booking office or take advantage of any other opportunities.

During the Future Cities Summit held in early December 2014 in London, many reports were made on new technologies destined to change the living standards of the cities and their inhabitants, and quite a few smart city projects were presented, but there was also enough criticism of the idea itself. Jonathan Rez from the University of New South Wales expressed his opinion on the matter and was quoted by *The Guardian:* "Architects engaged in the planning of cities of the future should employ psychologists and ethnographers as part of their teams," he said. "What is a city if not people?" (Beresneva 2015, p. 1).

Finally, experts are apprehensive about situations that may occur once the software is out of order. How will such a city carry on without the Internet or in case of a power blackout?

Besides, currently Russia demonstrates a discernible trend toward the ideas of a digital revolution. We can imagine how dangerous these digital, nano, biological, and cognitive technologies, virtual reality, development of the IoT, creation of smart cities, and other Artificial Intelligence technologies are. Digital inequality will become more severe, and other adverse effects will appear, if these technologies are widely used not just within the existing paradigm of development, but also the new one, unless humankind recognizes the objective development goal.

This problem could only be solved if "technological singularity" is complemented with a singularity in shaping a new model of living arrangement. Combined, they will make "humanistic singularity" possible or, rather, accelerate reaching the area of "singularity," where the time between the achievement of the development goal and the reality for each particular person and society will approach zero in every possible way. Unfortunately, nobody addresses the need for rebuilding the fundamentals of human society (i.e., the creation of a new model of human relations, a new model of living arrangements that would be adequate to the technologies of the 21st century).

THE ROLE OF THE UNITED NATIONS IN THE EVOLUTION OF A NEW DEVELOPMENT PARADIGM

The main conclusion to be drawn from this discussion is that the worldview approach helps to define the fundamental concept of the new model of living arrangement and to provide the reasons and ways for development and implementation of the megaproject titled "The Territory of Advanced Development: for the Good of the People." Round-table discussions were held in Russia at

the Moscow Economic Forum 2014 and 2015 to address this issue. Suggestions on the megaproject were approved by the members, and a relevant Resolution (MEF, 2014) and Decision (MEF, 2015) were published on the MEF official website.

The core idea of the megaproject in reaching the strategic goals is to build a new foundation on each local level in any country of the world simultaneously (i.e., new direct human relations that also suit the technologies of the 21st century, and a mechanism for their implementation through real-time coordination of interests of a government, community, and business with those of an individual). This is the shortest and more probable scenario toward the desired future. Being a customer and a consumer of wealth simultaneously, every individual represents the government, business, or civil society, and as the time between the origin of the need for achievement of the goal and the fulfillment of this need decreases, the interests will increasingly match.

One of the examples of well-coordinated interests is a launch of an online project Active Citizen in Moscow, which is at its early stage of development (IA Mos.ru, 2015). The project invites every Muscovite to take part in urban management and helps authorities to make decisions that most residents are asking for. The project initiators believe that having experienced the benefits of online referendum once, Muscovites will want to keep the service and will not let the authorities terminate it.

When addressing the tasks of the megaproject, the key concepts to consider are the following:

1. For Russia: the project can be developed by scientists from all institutes of the Russian Academy of Sciences (RAS), which is an incentive for further existence of the RAS.
2. Globally: an international interdisciplinary team of scientists and practitioners could be created to develop the megaproject that would also involve the global intellectual community to develop the proposed model where people are united by a network, possibly under the auspices of the UN. In New York, in September 2015, the international community approved a new set of goals for sustainable development for the next 15 years and the Sustainable Development Agenda (UN, 2015b). It is crucial for humankind that from the very beginning this set of goals is considered as subgoals of the objective development goal, now that the world population is growing and natural resources are becoming more scarce (UN, 2015b).
3. The pilot project should also be implemented under the auspices of the UN locally in different countries, and, once tested and improved, the new model of living arrangement should be transferred to the entire world. Collective shaping of a new model of living arrangement is the message Russia could send out to the world. The project could be integrated into the UN Sustainable Development Agenda. It could be part of sections like the one regarding social contracts, for example. This will help to ensure social protection and not only to provide basic public services in healthcare, education, power, water supply, and sewage, but also to make available the access to the entire spec-

trum of physical and spiritual human needs for each particular individual, not for all people abstractly. Moreover, implementation of this project will allow to achieve the whole set of goals previously approved for the first time in history by the UN, as well as to guarantee respect for human rights set out in the Universal Declaration of Human Rights adopted by the United Nations General Assembly in 1948.

4. The proposed project may also become an integral part of a new global infrastructure forum of the United Nations aimed not only at stimulating investment in infrastructure to ensure sustainable development, but also at effective investment management with minimum resources and maximum result, which will ensure overall implementation of the ideas for protection and conservation of the planet and natural resources, biodiversity, and climate.
5. If the project is supported by the UN, the Technology Facilitation Mechanism stipulated in the Agenda is applied, which opens new horizons and facilitates the development, transfer, and extensive use of corresponding technologies. In 2008, in our book titled *Forecasting the Future: A New Paradigm* we wrote that transformation of the UN as an institution for coordinating the interests of humankind on the global level is extremely important. The key objective of the UN, or any other institution established under the UN or as its part, will be the provision of a dedicated structure to accumulate knowledge, from the origin of the humankind to the present day and future prognosis. Based on the vast availability of scientific and technical information one will be able to build technological chains between the origin of a particular person's need and its fulfillment in any location, which ensures better synchronization of all processes and continuously minimizes time consumption. The missing knowledge is the order for new R&D work (Bondarenko, 2008).
6. The UN-supported partnership of the government, business, society, and an individual brought together in the pursuit of common goals at each national and supranational level gives hope that the theory and practice of solving the issue of sustainable development will coincide in time and space. Most importantly, when considering the interests of each human being, there is a real hope that the effective resolution of challenges faced by any country of the world is subject to every inhabitant, and efforts will be made to facilitate it.

CONCLUSION

The change of development paradigm is an objective process. However, the outcomes may vary depending on the dominant model of living arrangement that will be the first to achieve "singularity" (i.e., the point of no return).

Model Option 1

The development occurs in a conscious way in the interests of a limited group of people toward their goal. There is a discernible trend for "technological singularity" that stems from Artificial Intelligence and technologies for manipulation and control of human consciousness. The ultimate goal is to take control over

the world. It does not match the objective development goal. The future where the time of achievement of the objective goal equals zero will never happen. We are moving in the direction of the Apocalypse.

Model Option 2

Goals may be chosen in a conscious or unconscious way, and intrinsically they may constitute subgoals of a higher goal (i.e., the objective goals of development). At the same time, a limited group of people sets their own goals. The two groups are moving in different directions. The development toward the objective goals occurs by trial and error. Therefore, in this case the future is uncertain (i.e., the time of achievement of goal "singularity" may or may not come). But this will be much extended in time and accompanied by significant human and resource losses, and may also lead to an apocalypse.

Model Option 3

The development occurs in a conscious way toward the objective goal and in the interests of each particular human being. Focus on the interests of an individual and coordination of these interests in real time through production at request without unnecessary produce is the only possible prerequisite for sustainable development toward the goal. In this case, technological singularity is synchronized with singularity in shaping new human relations, and their understanding of the need for evolutionary and irreversible progression toward the point where the time of achieving a goal equals zero.

Thus, the new development paradigm and the benefits of the digital revolution in industry and other areas of everyday life will only benefit humankind if there is a simultaneous creation of a new model of human relations objectively aimed at development for the sake of a particular person and his/her attaining the Supreme Intelligence. In all other options, humankind is headed toward the Apocalypse. As Ervin Laszlo notes in his 2011 article, "Global Bifurcation: The Decision Window," "We have reached a watershed in our social and cultural evolution. The sciences of systems tell us that when complex open systems … approach a condition of critical instability, they face a moment of truth: They either transform or break down" (Laszlo, 2011, p. 3).

This is why it is important to realize that a change in the development paradigm will create a real-time mechanism for coordination of interests of the government, society, business, and an individual through production at request without unnecessary produce as the only possible prerequisite for sustainable development toward the goal. Given that, the requirement for balanced technological and socioeconomic changes in real time as the basis for eliminating the root cause of the crisis is to recognize and accept objectivity of the human society development goal, which is the creation of an environment where every individual is able to achieve perfection.

Therefore, the new development paradigm suggests:

- Recognizing and accepting objectivity of the human society development goal;

- The inevitable need for synchronous formation of the foundation: a new model of life (new industrial relations) and adequate production capabilities and mechanism for real-time coordination of the interests of the government, society, and business with the interests of an individual;
- Generation of only those tasks, tools, and mechanisms that ensure minimization of all processes and efficient management of all resources during the period between the origin of the need of a particular person and the fulfillment of this need;
- Ensuring the balance of technological and socioeconomic changes in real and future time. Thus, the root cause of the crisis is eliminated, and the system addresses external and internal threats in advance.
- In other words, the new development paradigm means greater possibilities for creating an environment where every human being can achieve perfection.

FUNDING

This article is an output of a research project implemented as part of the Basic Research Program at the National Research University Higher School of Economics (HSE) in 2017 with support by the Russian Science Foundation (Project No 14-11-00634).

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