The Future of Global Civilization: Commentary of Big Historians

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Abstract

This article analyzes the views of big historians on the current state of civilization, its future, and possibilities of global regulation. The conclusions are based on the results of the content analysis of the original research papers published in two journals as well as of the interviews with 16 people involved in Big History. The findings indicate a certain variation with regard to the forecasts for the future.

Keywords: intelligence as an evolutionary factor, forecasting, global crisis, regulation, global problems.

The Current State of Civilization and the 'Singularity' Point

In the present paper we describe some possible scenarios of social development in the next decades and some possible mechanisms of global regulation that we have identified based on the opinions of 16 big historians received via interviews in the autumn of 2010. In addition, for our content analysis we have selected articles from the journals *Vek globalizatsii* (Age of Globalization) and the *Journal of Globalization Studies*. We have analyzed articles from issues of the journal *Vek globalizatsii* published from 2008 (the first issue) to issue 1(7), 2011 (see Appendix 2), and the *Journal of Globalization Studies* (volume 1, numbers 1 and 2, 2010) (see Appendix 1). Articles irrelevant to the objectives of the study were excluded from the analysis. Thus, we analyzed 63 articles in Russian from *Vek globalizatsii*, and 16 articles in English published in the *Journal of Globalization Studies*.

The tools for content analysis were tested in August-September of 2011. Based on those tests, the categories and units of analysis have been defined. We have analyzed 22 articles selected using a random number table. Modern society faces many challenges that threaten its development and human survival in general and that can reduce living standards, deepen political tension and environmental degradation, as well as increase the number of social conflicts. The content analysis indicates that sociocultural issues are more frequently discussed than any others.

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In our opinion this proves that they are of utmost importance, especially the ones related to religious contradictions of the global civilization. The religious factor can cause serious problems, such as terrorism, wars, ethnic, and confessional conflicts. One can argue that we are dealing with a collision not just between two world religions, but between traditional Islam and Capitalism, between the Eastern and Western civilizations that are based on different values and life goals.

The articles under study pay little attention to environmental and socio-economic issues. Probably, the reason is that people have already gained positive experience in solving the problems associated with various restorative measures for environmental management and protection, as well as humanitarian relief to the poorest of the developing countries.

The units of analyses in the category of demography, especially those related to overpopulation, are less frequently used than all others. This may probably indicate that the problem of overpopulation is considered less urgent than it used to be. One can explain this by the fact that the population growth-rates have been decreasing, although the population decline is still too slow. Meanwhile, the migration increases, which probably leads to numerous ethnic conflicts and to the change of ethnic composition of Europe and North America. The words and phrases somehow associated with Huntington's 'clash of civilizations' (Huntington 1993) are more frequently used than the words and phrases from other categories of analysis (Table 1).

Table 1. A comparison of various aspects of life of modern civilization (the data of content analysis)

Categories	The number of units of analysis	The total number of usages	Median	Average
Environmental	16	1,273	24.5	79.6
aspects				
Demographic	12	802	15.5	66.8
aspects				
Sociocultural	27	3,899	43.5	144.4
aspects				
Socio-economic	16	1,000	24	62.5
aspects				

 $\it Notes:$ Averages were used because of the difference in the number of units of analysis. Median is the middle of the ordered series of numbers (the number

of uses of each word in this category). Arithmetic average is the ratio of the total number of uses to the number of units of analysis.

The word 'crisis' was used 736 times in the articles on economic, cultural, environmental, political, and social issues. Thus, one can suppose that many participants of our survey believe that modern society runs into systemic crisis. According to Akop Nazaretyan (2008), this crisis is more dangerous than the previous ones because of globalization processes, and it means that the next generation will probably decide the fate of the whole civilization. This hypothesis is supported by a series of mathematical calculations that are summarized below.

Professor Graeme Snooks has developed a theory, according to which the output of one phase (genetic or technological) becomes the input leading to the next phase. The result of these processes generates an accelerating rate of change (Snooks 1996). A few years later, Russian scientist Alexander Panov came to the same conclusion in independent studies based on different data. Panov finds that 'the duration of each subsequent stage in the evolution of planetary system is on average $a = 2.67 \pm 0.15$ times shorter than the previous one' (Panov 2005: 39). This is a simple logarithmic equation, and the rates of social and biological evolution tend to infinity at certain points. Nazaretyan (2008) calls this phenomenon the 'Snooks-Panov vertical'. Some scholars call the point at which the rate of evolutionary change tends to infinity 'the point of singularity' (Kurzweil 2005; Nazaretyan 2008). Nazaretyan (2008) considers this 'point of singularity' as a 'bifurcation point' of a system in general and of the social system in particular. In other words, according to Nazaretyan, in the middle of the twenty-first century the world will reach a bifurcation point. Of course, different ways of system development (future scenarios) are possible, for example, a destruction of global civilization, a stabilization of development, or a transition to a qualitatively different level of system complexity.

According to Panov, 'the development of crisis coincides with ... the completion of the scale-invariant attractor of planetary evolution. Therefore, the approaching evolutionary crisis is, apparently, not a usual evolutionary crisis, of which there have been many; it is a crisis of the very evolution of intelligence on Earth, stretching back four billion years. One might say that this is ... the crisis of crises' (Panov 2005: 44–45). Moreover, according to Panov, one cannot totally exclude that not only the civilization itself will change, but the human inherent mechanisms of evolution, the biosphere of Earth, and the Universe on the whole will also change. Snooks thinks that the vertical is 'a pattern of the past – which

cannot be extrapolated into the unknown without the very real risk of making erroneous and, hence, misleading predictions' (Snooks 2005: 51), but some non-trivial predictions of the future are still possible (though, of course, they may well be entirely wrong). In his concept the vertical will continue indefinitely, since the rate of the basic processes remains unchanged.

The Future of Civilization: The Interview Data¹

Most of the interviewed big historians (14 out of 16) also assess the present state of civilization as a crisis or pre-crisis. The question to the respondents was: 'What are the possible consequences if the crisis is not resolved?' The answers can be divided into two main categories: 1) the extinction of *Homo sapiens* and possible mass extinction of most life forms, and 2) survival of some people. The respondents offered several possible outcomes in case the humanity fails to overcome the crisis: a) fragmentation of societies around individual capitalist leaders with the rest of the population living in extreme misery; b) war of all against all; and c) general deterioration of living conditions, destruction, pandemics, endless wars, scarcity of freshwater, forced migration of millions of people to more prosperous regions due to environmental pressures, and depletion or extinction of some natural resources. And there is another vision, which summarizes all of the above – a gradual return to earlier forms of social organization and social reproduction.

Big historians have provided some ideas how to overcome this potential crisis. Please, note that the ideas offered by some of those interviewed, by no means, are representative of the opinions of all the interviewees. Barry Rodrigue considers building a sustainable global community as crucial for the survival. David Christian sees education of people as citizens of the world, not of a certain state, as an important step for humanity's survival. He confirms that this may contribute to the formation of a broader worldview which can help find a way to avoid competition between states as well as to concern not about any particular country, but about the whole planet. Jonathan Markley considers scientific and technological progress to be the crucial point. Robert King suggests a restructuring of social organization towards more egalitarian forms of property, in other words, it is necessary to create a class of united producers who are

¹ The list of informants: Robert Drury King, Esther Quaedackers, David Christian, Craig Benjamin, Dan Stasko, Kathryn Begg (undergraduate student), Alexander Panov, Frederick Paxton, Jonathan Bruce Markley, Barry Rodrigue, James Tierney (undergraduate student), Eric Joseph Chaisson, Tom Gehrels, Akop Nazaretyan, Andrey Korotayev, and Richard Blundell.

free to manage their own work and who plan to achieve common goals necessary and useful for society. Alexander Panov considers the transition from an extensive to intensive development as an important pathway toward stability. He also suggests some indirect measures of state regulation: the use of taxation and subsidies to encourage corporations and consumers, reducing global social differentiation through developing the poor countries by substantial financial, technical and intellectual support, and, finally more vigorous SETI programs. Akop Nazaretyan predicts the diminution of religious and ideological outlooks that inspire groups to look at others as enemies and considers this to be an important step.

Some respondents think that it is necessary to reduce the rate of consumption, to create products and services that are less harmful to the environment, and to slow the population growth. Thus, in the opinion of our interviewees, we need some changes in people's outlook and also in economic and political systems to solve global social problems. Suggestions are offered to solve these problems (if the name of a Big History expert is not indicated, it means that several of them offer this suggestion):

- 1. To create a system of taxation that will encourage the respect for the environment (Craig Benjamin).
- 2. To reform political systems in the developing world in order to establish forms related to liberal democracies that can contribute to solving demographic problems (Alexander Panov).
- 3. To reorient governments from competition (in which the increasing consumption of energy and natural resources serves the criterion of 'growth') to progress of human creativity and intelligence (David Christian).
- 4. International organizations and developed countries should support the poor countries both in terms of finance and technology. (These measures imply that we should contribute to the technological development of these countries, because it can be the key factor for their successful development and thus, it will safeguard our own development in the future).
- 5. To reform the system of education and training, this can contribute to the formation of a global outlook and better critical thinking. Such reform may be based on the working out the global educational standards.

The scholars, whom we interviewed, expressed their opinions on the future social development. Some of them think that a new technological revolution is coming that will change the whole world (Jonathan Markley). Many talk about changes in the sphere of economic relations and forms of production (Robert King, Dan Stasko, and Barry Rodrigue). Some argue that there may be changes in the political structure of the state (Eric Chaisson, Andrey Korotayev). This can be some new laws and regulations that will restrict freedoms, or, conversely, increase the democratization of political systems. Finally, some suggest that demographic problems should be solved (Craig Benjamin, Andrey Korotayev).

Thus, the experts suggest two ways of overcoming the crisis: 1) a restriction of production and consumption that can lead to stabilization of development, and 2) a breakthrough in technologies that should become more environmentally friendly and efficient. Of course, one may also imagine various combinations of both (Andrey Korotayev).

Basing on the content analysis and the interviewees' opinions, we have selected some of the most important actions that can help overcome the crisis in social development. These ideas are preliminary, and they should not be regarded as a fully-fledged manifesto:

- 1. Creation of uniform educational standards for the sake of the formation of critical thinking and global outlook, which eventually can help solve environmental and sociocultural problems. Big History might serve the basis for such educational standards.
 - 2. Technological assistance to the poor countries.
- 3. The most important management actions can hardly be realized by the middle of this century. The creation of a single coordination center, which is not a political institute, can help realize these actions. It could be an international organization capable to work out some recommendations for national governments.

Our content analysis has shown that current social and economic problems are also urgent ones, particularly those associated with inequality between different countries in terms of unequal access to technologies. The interviewees advocate the acceleration of financial and technological support to poor countries. Maybe, we should not just 'drop boxes' with humanitarian assistance, but create modern research centers and establish high-tech manufacturing instead of multinational corporations' subsidiaries to those countries, because it may create the basis for independent socioeconomic development.

The Possibility of Global Regulation: Intelligence as a Cosmological Factor

According to some of our informants, the opportunities engendered by the impact of intelligence are not limited by social systems, and it seems that the role of consciousness as an evolutionary factor is increasing. One of the megatrends of evolution is the growth of complexity. Eric Chaisson's model of free energy rate density is a quantitative criterion stating that the more complexly organized a system is, the higher is the ratio of energy per unit time to its own mass (Chaisson 2001). Under that logic, the brain is the most complex entity that has been created by biological evolution without technological interference, because of the number of connections between neurons, and all further development and growth of complexity is associated with the creation of the anthroposphere (a peculiar realm of the Earth's spheres, which is created and changed by humans).

At the beginning of the last century, Russian cosmists Nikolay Fyodorov and Konstantin Tsiolkovsky wrote about the possibility of the transformation of consciousness into the factor of cosmic evolution. According to Fyodorov, chaos dominates in the Universe, and it can be overcome by bringing people together to cope with global challenges. In other words, overcoming of chaos involves scientific management of nature and space exploration (Fyodorov 1982[1903]). Tsiolkovsky (2001[1903]) introduced the idea of human settlement of outer space and developed the first spacecraft project.

Chaisson claims that humanity that has become a powerful evolutionary factor on the planet is on the verge of becoming a significant factor in the evolution of the Universe in general. Thus, he concludes that 'we have an obligation, a moral responsibility to survive, especially if we are alone in the Universe' (Chaisson 2005: 101).

Nazaretyan comes to a similar conclusion, arguing that 'for the creative mind, there are no absolute limits for the mass and energy process control and the potential prospect of its development is associated with an expanding influence on cosmic evolution'. He also argues that physical laws cannot constrain the engineering creativity (Nazaretyan 2009: 12). Less optimistically, Fred Spier thinks that 'if biological evolution continues in the same direction in which it took place over the past billions of years, our species can disappear very soon ... if we as a species can survive longer, it is only thanks to our extremely developed intelligence' (Spier 2010: 93). According to him, the ability of human mind to influence rising complexity is limited by the extent of the Earth and near-Earth space, because interplanetary travels require prohibitive expenses. Flights to other planetary systems are impossible, because they would take centuries, and traveling faster than the speed of light contradicts the common-known laws of physics (*Ibid.*: 93).

The opinions of the interviewees can be classified in four general forecast scenarios. According to the first one, there will be a complete change of civilization (a transition to a new stage of evolution, some changes in the political world system and so on). The second scenario presupposes the beginning of a descending stage of evolution (the general deterioration of living conditions, the fragmentation of society). The third scenario predicts the probable extinction of humans and of most life forms. And there is a fourth scenario advocated by Andrey Korotayev according to which, the World System is now escaping the blow-up regime in which it has been developing over the recent centuries, and this makes it probable that by the mid-twenty-second century, the World System complexity will more or less stabilize at a certain level at least for a few centuries. This scenario implies that it is not in the future that we will witness a complete change of civilization, but it is already happening (e.g., Korotayev 2010). Note that all the positive scenarios imply the necessity to regulate global processes.

The attempts to regulate global processes are unprecedented; until the twentieth century nobody had ever tried them. And at the present stage of social evolution, there exist supranational structures that can serve the basis for global governance. But they have a long way to go.

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Appendix 1

List of articles from the *Journal of Globalization Studies* used for our content analysis

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Appendix 2

List of articles from Vek globalizatsii used for our content analysis

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