REVIEWS AND NOTES

THE 'CLUB OF MOSCOW' RECONSIDERS THE LIMITS TO GROWTH: A BRIEF REVIEW OF A BOOK

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Review of *Reconsidering the Limits to Growth. A Report to the Russian Association of the Club of Rome*. Edited by Viktor Sadovnichy, Askar Akaev, Ilya Ilyin, Sergey Malkov, Leonid Grinin, and Andrey Korotayev. Springer, 2023. ISBN 978-3-031-34998-0.

The collective monograph (edited by Viktor Sadovnichy, Askar Akaev, Ilya Ilyin, Sergey Malkov, Leonid Grinin, and Andrey Korotayev, yet the team of authors is much larger) was published last year with the sonorous title 'Reconsidering the Limits to Growth. A Report to the Russian Association of the Club of Rome'. This title refers to the famous phenomenon of the so-called Club of Rome reports and forecasts. And the authors (as William R. Thompson notes in the Preface) represent '... an outstanding group of analysts working in Moscow' (p. v).

In keeping with its apt definition, in this case and following the tradition, we can call them the 'Club of Moscow': 'The "Club of Moscow's" response to the Club of Rome chooses to look at the interactions between aging, capitalism, inequality, climate change, resources, technology, and world order' (p. vi). And, as the authors note, 'this report is the result of more than ten years of work on modelling and forecasting world dynamics and it reflects the views of Russian scientists on the future of global development' (p. 1).

The authors themselves define the aims of this book as follows:

• to provide an analysis of the changes that have brought the World System has come to the present, based on an integrated approach that includes the world systems, historical and evolutionary approaches, mathematical modeling, and a systematic view of society, in which changes in one subsystem cause transformations in others;

• to define the main vectors of transformation of the World System;

• to make a detailed forecast of the development of all the main subsystems of society and the World System, while presenting three or four horizons of change (from the short term to the very long term up to 100 years);

• to present different development scenarios and make recommendations on how to switch to the most favorable development scenario (p. xi).

In a more detailed form, these aims are set out a little lower, in the first chapter, where the authors modestly point out that 'the main goals of the book are to do a pre-

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liminary work ...' (p. 6) on the issues raised. Well, if we take into account the extreme complexity of the problems under consideration, then the reservation is quite appropriate. But only in the sense that for problems of this kind (and level of complexity) any work will always be 'preliminary' in any case.

In an effort to achieve their goals, the authors have produced a 540-page volume that truly covers all of the key issues raised above, as well as many others related to the problem of the future of our world. Moreover, as the authors themselves emphasize, they have included in the field of analysis

> those issues that do not receive adequate attention being nevertheless extremely important – such as aging, different pathways of high income and low-income countries toward the common human goals, specific problems and development paths in African societies, a vision of the future society and different scenarios of transition to it. Such approaches also help to overcome the limitations of the Eurocentric view, which is rightly criticized (p. 6).

If we briefly characterize the structure of the book, then, in addition to the introduction (which is very expressively titled 'Introduction: Hoping for the Future' [pp. 1–16]), and conclusions (with a rather opaque title 'Conclusion: Reconsidering the Limits – Suggestions (Come On!)' [pp. 531–540]), the book is divided into four parts (and sixteen chapters): 'Looking into the Past and the Future' (pp. 17–53), 'Problems, Forecasts, Solutions (Climate, Ecology, Demography, Aging)' (pp. 53–138), 'Problems, Forecasts, Solutions (Technology, Economics, Socio-Political Development)' (pp. 139–240), and 'Modeling Social Self-Organization and Historical Dynamics – from Agrarian to Cybernetic W-Society' (pp. 241–530). As you can see, it is the fourth and final part that is the most extensive, taking up more than half of the book. While the first, consisting of only two chapters (and thirty-five pages), is actually a very extensive theoretical introduction to the volume.

However, the second and third parts, united by a common title ('Problems, Forecasts, Solutions ...'), can actually be considered as a single part, with two subsections. The chapters that make up the first part are entitled 'Macrohistorical Approach' (pp. 17–34), whose authors are Victor Sadovnichy, Askar Akaev, Ilya Ilyin, Sergey Malkov, Leonid Grinin, Ivan Aleshkovski, and Andrey Korotayev, and 'The Future Society and the Transition to It' (pp. 35–52). the same authors (except Ivan Aleshkovski, and plus, on the contrary, Aleksey Andreev).

The second part consists of four chapters: 'Climate and Energy: Energy Transition Scenarios and Global Temperature Changes Based on Current Technologies and Trends' (pp. 53–70, authored by Askar Akaev and Olga Davydova), 'Ecology: Life in the "Unstable Biosphere"' (pp. 71–96, by Natalia Kovaleva), 'Demography: Toward Optimization of Demographic Processes' (pp. 97–116, by Andrey Korotayev, Sergey Malkov, and Jameelah Musieva), and 'Global Aging: An Integral Problem of the Future. How to Turn a Problem into a Development Driver?' (pp. 117–138, by Leonid Grinin, Anton Grinin, and Andrey Korotayev).

The third part consists of the chapters: 'Technologies: Limitless Possibilities and Effective Control' (pp. 139–154, by Leonid Grinin and Anton Grinin), 'Economics: Optimizing Growth' (pp. 155–168, by Leonid Grinin, Anton Grinin, and Sergey Malkov), 'Sociopolitical Transformations: A Difficult Path to Cybernetic Society' (pp. 169–190, by Leonid Grinin, Anton Grinin, and Sergey Malkov), 'Future Political Change. To-

ward a more Efficient World Order' (pp. 191–206, by Leonid Grinin, Anton Grinin, and Andrey Korotayev), 'High-Income and Low-Income Countries. Toward a Common Goal at Different Speeds' (pp. 207–224, by Leonid Grinin, Sergey Malkov, and Andrey Korotayev), and (particularly noteworthy, as other continents did not receive similar attention) 'Africa: The Continent of the Future. Challenges and Opportunities' (pp. 225–240, by Leonid Grinin and Andrey Korotayev).

Finally, in the fourth part devoted to mathematical modeling of social, political, economic, cultural and demographic processes) we see chapters: introductory to the problem of modeling social processes 'Modeling Social Self-Organization and Historical Dynamics. An Overview' (pp. 241–252, by Victor Sadovnichy, Askar Akaev, Ilya Ilyin, Sergey Malkov, Leonid Grinin, Vasily Popov, and Andrey Korotayev) and a very extensive main chapter 'Modeling Social Self-Organization and Historical Dynamics. A General Approach' (pp. 253–308, by Askar Akaev, Sergey Malkov, Stanislav Bilyuga, Artemy Malkov, Jameelah Musieva, and Andrey Korotayev). Next, devoted to the main (identified by the authors) historical epochs in the development of mankind 'Modeling Social Self-Organization and Historical Dynamics. Agrarian Society' (pp. 309–336, by Sergey Malkov, Natalia Kovaleva, Leonid Grinin, and Andrey Korotayev), 'Modeling Social Self-Organization and Historical Dynamics. Industrial Society' (pp. 337–386, by Askar Akaev, Sergey Malkov, Olga Davydova, Natalia Kovaleva, Artemy Malkov, Leonid Grinin, and Andrey Korotayev), 'Modeling Social Self-organization and Historical Dynamics: Global Phase Transitions' (pp. 387–418, by Sergey Malkov, Leonid Grinin, Anton Grinin, Jameelah Musieva, and Andrey Korotayev), and (concluding the consideration of historical dynamics by epochs) 'Modeling Social Self-Organization and Historical Dynamics: Modern Society and a Look into the Global Future. Cybernetic W-Society' (pp. 419–460, by Askar Akaev, Sergey Malkov, Leonid Grinin, Stanislav Bilyuga, Olga Davydova, Anton Grinin, Natalia Kovaleva, Artemy Malkov, Jameelah Musieva, and Andrey Korotayev).

Special attention is paid to individual (for the authors most interesting) aspects of historical dynamics in the chapters 'Modeling Social Self-Organization and Historical Dynamics: Africa's Futures' (pp. 461–490, by Andrey Korotayev, Sergey Shulgin, Vadim Ustyuzhanin, Julia Zinkina, and Leonid Grinin) (and again Africa), 'Analyzing Social Self-Organization and Historical Dynamics. Future Cybernetic W-Society: Socio-Political Aspects' (pp. 491–520, by Leonid Grinin and Anton Grinin), and 'Analyzing Social Self-Organization and Historical Dynamics: Life Quality Index' (pp. 521–530, bySergey Malkov, Stanislav Bilyuga, and Jameelah Musieva).

So, we have listed here all the chapters (and, accordingly, the main problems) of the book presented. Of course, in a brief review it is not possible to pay equal attention to all these chapters. However, I hope that the titles of these chapters themselves are sufficiently informative to enable each part of the book to find its interested reader. However, despite the considerable size of the book (and the characteristic way in which the modern reader, overloaded with information, reads large texts only in the passages that are most attractive to him), the best solution would be to read it in its entirety, from the first page to the last. This is the way to achieve a synergistic effect that the authors seem to have counted on will arise. And which, in my opinion, they have indeed achieved. At least according to my feelings.

Nevertheless, I would still like to say a little more about some of the issues discussed in the book, the ones that have particularly interested me, based on my real ca-

pabilities. I would like to emphasize that it seems to me more appropriate to start here with questions rather than from chapters, since the very architecture of the book is such that the key, most important issues under consideration run through more than one chapter, and their analysis proceeds, as it were, in an ascending spiral, rising to a new and more complex level in each new chapter.

Thus, one of the key questions from the point of view of the authors of the book, the question of the coming 'Cybernetic Revolution' and the emergence as a result of 'Cybernetic W-Society', which appears in the second chapter (pp. 39–40, 43), is subjected to an increasingly in-depth and multifaceted analysis in (at least) the chapters 'Technologies: Limitless Possibilities and Effective Control', 'Sociopolitical Transformations: A Difficult Path to the Cybernetic Society', 'Modeling Social Self-Organization and Historical Dynamics: Modern Society and a Look into the Global Future. Cybernetic W-Society', 'Analyzing Social Self-Organization and Historical Dynamics. Future Cybernetic W-Society: Sociopolitical Aspects' and finally in 'Conclusion: Reconsidering the Limits – Suggestions (Come On!)'. And for an adequate and complete understanding of the authors' thoughts on this subject, it would be best to familiarize yourself with all these chapters.

Similarly, the authors themselves point out, for example, that 'For more details on X-type and Y-type societies see chapter "Economics. Optimizing Growth"' (Grinin *et al.* 2023c), chapter "Socio-Political Transformations. A Difficult Path to Cybernetic Society" (Grinin *et al.* 2023d, this volume) and chapter "Modeling Social Self-Organization and Historical Dynamics. Modern Society and a Look into the Global Futures: Cybernetic W-Society" (Akaev *et al.* 2023a, this volume)' (pp. 39, note 7). And such internal references on a wide range of issues are regular in the book. Well, in fact, the question that runs like a red thread through practically all the chapters of the book can be considered as a question formally posed by the authors as a theoretical introduction to the first chapter of the book.[1] This is the question of the need to use a macrohistorical approach to consider the problems posed in the book. It is the use of a macrohistorical approach that I believe is a particularly important asset of the book. Indeed, the macrohistorical approach itself is defined by the authors as an approach in which 'the ongoing processes are considered in a broad historical context, covering hundreds and thousands of years' (p. 17). At the same time, they emphasize that 'The authors consider it necessary to avoid 'historical myopia' and subjectivity in the interpretation of current events, to identify the historical pattern of what is happening, and to try to look into the future with an unbiased view. The study of long-term trends makes it possible to identify zones of exhaustion of previous trends, where their reversals become possible, that is, to detect major turning points' (p. 18).

In general, however, the 'macrohistorical approach' proposed by the authors is much more complicated than it might appear on the basis of the quote alone. As the authors themselves point out,

> We emphasize the need for a comprehensive analysis that takes into account not only the long-term historical trends but also the interaction of all important factors, driving forces, and spheres (ecology, climate, technology, demography, economy, culture, sociosphere, politics, ideology, culture, *etc*.), as well as relations around redistribution, stratification, inequality, injustice and so on, that affect macrohistorical development and try to identify specific influ-

> ences of each of them in a certain period. In addition, it is necessary to take into account macrohistorical and evolutional regularities, patterns, and trends. The macrohistorical approach aims to link all these mutual influences into a single picture; its analysis makes it possible to understand the processes taking place in the world and the prospects for their further development (p. 19).

Obviously, this approach is extremely complex to implement and requires a high level of competence and versatile awareness on the part of those who use it. In this case, the difficulties that arose were to some extent overcome by the fact that the work was carried out by a team of authors. The mutual synergy of their skills significantly enhances the skills of each of the authors. Such a team is in itself a significant value (including economic value) and a significant scientific asset. And let us hope that in the future we will be able to see more new results from the work of this team.

For now, let us take a closer look at some of the key issues. Among other things, I would like to look more closely at the question (one of the most important, in my view) about '... the possible transition from a liberal market capitalist society to a model of society with an equal distribution (but still preserving private initiative and the entrepreneurial spirit). This global transition is facilitated by the limitation of extensive growth opportunities for objective reasons' (p. 36). According to the authors, 'we are on the verge of truly major changes, because of which, most likely, the regulation of the economy and technological development will intensify; however, the opportunities and reserves for normal economic growth will remain for at least the next half a century or even until the end of the century' (p. 162).

This issue is addressed by the authors in a number of chapters, but perhaps most thoroughly in the chapter 'High-Income and Low-Income Countries. Toward a Common Goal at Different Speeds' (pp. 212–219). Moreover, it seems to me extremely important to distinguish the concepts they propose in the same chapter: 'it is necessary to clearly separate the concepts of "capitalism as a socio-economic system" and "capitalism as a sector of economy," which are often mixed, giving rise to confusion in reasoning' (p. 213).

And, I would like to note that, accepting this division, the authors believe that 'capitalism as a socio-economic system' is declining (p. 215). On the one hand, based on their accepted definition of capitalism as a 'socio-economic system' (p. 213), this conclusion seems perfectly fair. On the other hand, and based on the same definition, wouldn't it be more accurate to say that the 'fall of capitalism' happened 'yesterday', with the formation of the 'welfare state' in Western countries? And, accordingly, what is happening 'today' (and what the authors expect 'tomorrow') is the process of the fall not of 'capitalism' (as a 'socio-economic system'), but of what replaced it in the twentieth century?

Finally, perhaps, when we speak of 'capitalism as a socio-economic system', would it not be more correct, on the contrary, to consider its most important and defining characteristic as nothing more than 'the preservation of private initiative and the spirit of enterprise' as a fundamental principle that permeates all spheres of life in a given society?

Perhaps there is a certain play on terms (and meanings) here, but it seems to me that the ideas and conclusions of the authors quoted above still clearly require further understanding. So, first of all, if we talk about 'equal distribution', the European economy, for example, is today characterized by an extremely high degree of redistribution (which, it would seem, does not deprive of its 'capitalist' or even 'liberal' status). In the

UK (again), there is a progressive tax system where British with incomes more than 125,140 pounds pay 45 % income tax. However, according to available estimates, the maximum real income tax rate in the UK today could be as high as 60 %. Is it possible to increase the level of redistribution even more – and at the same time 'still preserve private initiative and the spirit of enterprise' in the economy?

I don't have an answer to this question. But it seems that the authors don't have it either.[2]

Second, when talking about 'equal distribution', the authors actually mean (and, in fact, go on to talk about this directly) the historical trend of increasing unlimited access to an ever wider range of goods for ever wider groups of the population, due to technological (and social policy) developments. This is certainly a correctly identified pattern. But, as it seems, this trend in itself does not threaten 'liberal market capitalist society' (understood here as 'still preserving private initiative and entrepreneurial spirit' and 'socio-economic system'). Because, in my opinion, there will be a parallel process of growth (accelerated growth) of the trend that can be described (somewhat verbosely) as the trend of 'permanent generation of new (and, as a consequence, rare and inaccessible, exclusive) goods'. These new, exclusive goods will obviously have a status character. And it is for access to them that the competitive struggle will unfold, which will determine the preservation and successful functioning of both 'liberal capitalism' and 'private initiative and entrepreneurial spirit'.

Theoretical justification (from the point of view of economic analysis) of exactly this scenario can, in my opinion, certainly be obtained by referring to the classic work of Carl Menger 'Principles of Economics' (Menger 2008; I must admit that I consider it generally the best work in the field of economic theory of all times and peoples).

Of course, we must keep in mind here the type of goods that Carl Menger himself defined as 'imaginary goods' (Menger 2008: 67). Not to mention goods such as 'family, friendship, love... community, *etc*.' (Menger 2008: 68). However, without insisting, I take my thoughts here only as a call for further reflection on the question of the fate of liberal capitalism. Closely related to this question, of course, is another, also raised here by the authors. The question of the fate of economic growth:

> We note that expanded reproduction, that is, economic growth, is a feature of the capitalist economy, which has been noted by many of its researchers, in particular Karl Marx, as well as Simon Kuznets (1966). Without the pursuit of profit, there is no capitalism. This raises a very important question: in the light of the observed trend towards a slowdown in global demographic and economic indicators, will there not be a situation in the future when there is neither growth nor the opportunity to increase profits? And, if that happens, what is the future of capitalism? (p. 212).

But will we really see an end to economic growth in the future? The authors themselves are more optimistic in this regard than many of those who predicted (and still predict) the 'death of capitalism': 'We do not believe that the opportunities for economic growth have been exhausted. On the contrary, as mentioned above, the new technologies of the Cybernetic Revolution in 2030–2040 can give an impetus to an increase in economic growth rates compared to current rates' (p. 159). And I fully agree with them. However, at the same time, I proceed not only from the undoubted fact of the emergence of 'new technologies of the Cybernetic Revolution' – but also, again, from the above-mentioned theoretical provisions of the aforementioned Carl Menger.

The process of producing goods actually consists in giving them a utility function. And this economic operation is an integral 'participant' in every social interaction. And therefore, it does not really depend on a decrease in the rate of demographic growth or on resource limitations. In every society, it seems to me, the opportunity to 'increase profit' exists by definition. As for the actual problem of demographic growth (which is, of course, also one of the key problems), the authors also pay close attention to it on many pages of the book, and especially in the chapter 'Demography: Toward Optimization of Demographic Processes'. In this chapter they 'provide an explanation for the change in the dynamics of the global demographic transition – most of the economically high-income countries and a significant part of the developing countries have entered the second phase of the demographic transition, in which the birth rate falls to a level corresponding to a simple replacement of generations or below that level' (pp. 97–98).

The question of the causes of the global demographic transition is, of course, extremely important and interesting (and has a direct bearing on the accuracy and credibility of the forecasts of the future situation proposed by the authors). And, indeed, the authors of the book have previously proposed an explanation for this phenomenon in a number of their works (although such an explanation it was also very different for different authors of this book (for more details see Romanchuk 2019: 136)). But, unfortunately, in this chapter (and in the book as a whole) they limited themselves to a purely empirical description of the process, without really attempting to provide an analysis of its causes.

Perhaps the only exception is the extremely laconic formulation in the second chapter: '... the global population is stabilizing primarily due to internal causes (declining birth rates), and not external (environmental, etc.) constraints' (p. 41).[3]

In my opinion, however, it is precisely the 'external constraints' that explain the global demographic transition. And I have previously outlined my arguments in favor of such an explanation in detail (especially in Romanchuk 2006, 2019; Romanchuk, Medvedeva 2009). As well as I proposed (especially in: Romanchuk, Medvedeva 2009) an explanation of why 'Africa is the main intrigue of demographic transformations in the twenty-first century' (p. 227).

However, I think that further discussion will show who is closer to the truth in this matter. But in connection with demographic processes, it seems important to dwell on one more point. And one that is closely related to what is perhaps the central issue for the authors. Namely, the question of 'the Cybernetic Revolution' and the emerging 'Cybernetic W-Society' (it is touched upon in one way or another by the authors in many chapters, but is analyzed in particular detail in the chapter 'Modeling Social Self-Organization and Historical Dynamics: Modern Society and a Look into the Global Future. Cybernetic W-Society').

Let me quote: 'Akaev *et al*. show that the modern historical period is a period of transition from the "epoch of growth," which followed the industrial revolution of the early nineteenth century, to the "era of deceleration," one of the strongest indicators of which is a rapid decrease in the growth rate of the Earth's population and its aging' (p. 420). Expanding on this conclusion the authors write: 'there is a slowdown in the growth of the world population; at the same time, the world population will age, and life expectancy will continue to increase. Under these conditions, the proportion of the elderly will increase, while the proportion of the young will fall' (p. 425). And, than

speaking about the 'Cybernetic W-Society', namely: 'A demographic growth ceases to be infinite, and the population eventually stabilizes (in Fig. 7, this is point N"). Moreover, this deceleration occurs naturally (with the second phase of the demographic transition, which is currently taking place in most countries of the world and includes, among other things, a transition from a family with many children to a family with few children)' (pp. 431–432).

Finally, the authors conclude their analysis of this problem with a conclusion that can be considered the most concise characterization of the most important principle of the existence of the future society: 'In any case, the period of hyperbolic economic and demographic growth characteristic of the industrial era is coming to an end, and the nature of the further development trajectory largely depends on measures regulating the socio-economic and demographic processes' (p. 432).

I resort to abundant citation here in order to present the authors' thoughts as clearly and accurately as possible. As we can see, if we try to present their vision of the demographic and economic component of the coming "Cybernetic W-Society" in the most condensed form, then it is best expressed by the last of the quoted conclusions. And this conclusion, we note, is supported by a very detailed analysis (including mathematical modeling). However, while paying tribute to the art of the authors and the quality of their analysis, I still disagree with them precisely on the last conclusion: the assessment of 'Cybernetic W-Society' as an era of 'stagnation of growth' in demography and economics (despite all the reservations they have repeatedly made, this is, I believe, this is what they are ultimately saying here).

Because, in my opinion, the technological breakthroughs that will bring humanity out of stagnation and back into the era of growth (both economic and demographic) are already in the making (and are already happening). Many of these technologies are beautifully outlined by the authors themselves in the chapter 'Technologies: Limitless Possibilities and Effective Control'. But of these, I would first of all focus attention not even on cybernetic, but on energy production technologies. No, not on 'renewable energy sources' (p. 67; all these 'solar panels' and 'wind turbines', I must admit, remind me of 'steam punk' (by this term here I mean the choice of the least effective and most 'bizarre' technical solution possible)). The best variants, I think, are the so-called closed-cycle nuclear reactors already existing today on fast neutrons (and MOX fuel), as well as technologies for the construction of mobile (floating, but not only) APECs and the possibility of their miniaturization, and, in the future, the use of thermonuclear energy and hydrogen.

The widespread use and implementation of these technologies will allow humanity, even just within the confines of our planet, to develop vast territories that are either still half-empty (like the Sahara and Kalahari deserts in Africa, the deserts of Central Asia and the tundra of Eurasia) or have not yet been developed at all by human beings (the Antarctic continent and the Arctic, lastly and above all the World Ocean). But there are also areas where humanity is moving even faster and where we can also expect significant breakthroughs in the near future. In addition, it is quite obvious that there are a significant number of territories on our planet today (one of them is the Republic of Moldova) that are extremely underpopulated, not because of the limitations of the Life-Support Technologies (LST) available to humanity but due to the geopolitical situation that exists on the planet today. And it is here that the transition 'Toward a more Effi-

cient World Order' predicted by the authors (p. 191) will obviously give a powerful impetus to the development of many territories that are extremely insufficiently and ineffectively used by humanity today. And, accordingly, it will provide humanity with a large reserve for both economic and demographic growth. It is true that, unlike the authors, I am not so optimistic about the speed of this transition 'Toward a more Efficient World Order' ('the transition to a new world order within three to four decades is inevitable' [p. 192]). In my view, the level of contradictions between countries is still too high to expect such a rapid breakthrough. Unless, of course, there is a 'thunderbolt' that will quickly force everyone to 'get baptised' (as the Russian proverb goes).

However, let us hope for the best. Well, I would like to conclude my brief review here and advise readers to definitely read this book. I am sure they will find it both a great pleasure and a great benefit.

NOTES

[1] This chapter also provides a brief overview and conclusions of previous Club of Rome reports. Moreover, the authors emphasize that 'we fully recognize the existence of objective limits to growth' (p. 2). But, in their view (and this is important), 'these limits differ from period to period, and, moreover, the boundaries of the limits are not frozen. So they can be significantly extended as a result of special planning and efforts' (p. 2).

[2] It is also worth noting that the ability of individual countries to increase the real tax rate on top incomes depends directly on the success of the implementation of the idea of a global minimum corporate tax. In the 2019–2023 period, the program to introduce a global minimum corporate tax rate developed very successfully. But the growing geopolitical tensions today and the emerging geopolitical division in the world (if it happens, it will clearly last for decades) raise the question of its future, it seems to me.

[3] And also some brief touches on this problem have been made in the chapters devoted to the problems of 'Modeling Social Self-organization' (especially the chapter 'Modeling Social Self-organization and Historical Dynamics: Global Phase Transitions).

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