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SCIENTIFIC AND TECHNOLOGICAL PROGRESS AND TRANSFORMATION OF SOCIETY: NOONOMY AND NOOSOCIETY. PART 3^{1,2}

Abstract: the theory of Noonomy, based on the study of modern trends in technological and socio-economic development, allows us to identify the causes of the contradictions that modern civilization faces – economic, social, environmental, moral contradictions. However, noonomy not only reveals the background of these contradictions, but also shows the maturing objective possibilities of getting out of these contradictions, overcoming civilizational dead ends, choosing a path at civilizational forks. The opportunities created by modern technology create the prospect of a transition from economics to noonomy, which means abandoning economic rationality, leading to an unrestrained pursuit of increasing production and consumption. The place of economic rationality is occupied by rationality based on the criteria of knowledge and culture. However, such a transition from economics to noonomy should be based on a change in the totality of social relations, and noonomy can be strengthened only within the framework of an integral system of the noosociety. The very nature of public relations and public relations of people, the nature of human socialization and socialization of society will orient social development to these new criteria. The ideological orientation of such a reformatting of society can be the ideology of solidarity, which grows out of the emerging opportunities to overcome the discord of socioeconomic interests of people based on the struggle for material resources.

Keywords: noonomy, noosociety, civilization, needs, knowledge, planning, culture, socialization, solidarity.

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¹ The article is based on the author's previous publications, primarily (Bodrunov, 2021).

² Continued. For the first part of the article, see: Bodrunov S.D. (2022). Scientific and Technological Progress and Transformation of Society: Noonomy and Noosociety. Part 1 // Noonomy and Noosociety. Almanac of Scientific Works of the S.Y. Witte INID. Vol. 1, No. 1; for the second part of the article see: Bodrunov S.D. (2022). Scientific and Technological Progress and Society Transformation: Noonomy and Noocety. Part 2 // Noonomy and Noosociety: Almanac of Scientific Works of the S.Y. Witte INID. Vol. 1, No. 2.

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科学技术进步和社会转型:智力经济和智力社会(第一部分)

摘要: 基于对当前技术和社会经济发展趋势的研究, 运用智力经济学理论我们能够确定产生现代文明所面临的矛盾的原因, 包括经济、社会、环境和道德方面的矛盾。智力经济学不仅揭示了这些矛盾的背景, 而且还显示出克服这些矛盾、走出文明死胡同、在文明发展的十字路口选择正确道路的客观可能性, 这种可能性正走向成熟。现代技术为所有权范式变化以及从传统经济到智力经济的过渡带来了机会和前景, 这意味着摆脱对经济合理性的追求——这种追求导致无限制地增加生产和消费, 经济合理性被基于知识和文化标准的合理性所取代。但这种从传统经济到智力经济的过渡依赖于整个社会关系的变化, 而智力经济只有在智力社会的完整体系中才能得以巩固。人们的社会关系和社会联系的性质、人的社会化和社会的社会化的性质决定社会发展将面向这些新的知识和文化标准。随着人们对基于物质资源争夺的人们之间社会经济利益不和谐的克服, 团结主义的意识形态将成为这种社会重塑进程的指导思想。

关键词: 智力经济、智力社会、文明、需求、知识、计划、文化、社会化、团结主义。

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WHAT TO DO?

Economic functions of the state

The liberal economic concept seeks to minimise the economic functions of the state and leave it in the role of "night watchman". "The basic idea of classical liberalism," writes N. Chomsky, "is opposition to all forms of state intervention in personal and social life, except the extremely limited and minimal" [Chomsky, 2012, p. 11]. However, new approaches in economic theory are developing the idea that the state is an important mechanism for achieving not only economic but also social efficiency. In this way, the state is transformed into an economic category, which allows it to be studied using, among other methods, classical political economy.

There was once a time when the state, as a special form of social self-organisation, almost never intervened in the economic process, and liberals try to "preserve" the customs and mechanisms of that distant time. Indeed, in Adam Smith's time, the state was small and its economic functions very limited. And the economy was much smaller and structurally simpler back then. The growth of the state in the course of the twentieth century is a spontaneous, accidental process for which the apologists of liberal economics are so fond of "fighting" and which is characterised by a clear internal contradiction. They like the spontaneity of the economy, but they do not like the very concrete product of that spontaneity – a significant role of the state in the economy.

G.V. Plekhanov pointed to the "decay" of the liberal conception at the end of the nineteenth century, noting that "for the economists of the backward school the charming motto '*non-interference of the state*' serves as a talisman." [Plekhanov, 1956, p. 301]. Even today, in our universities, the ideas of "backward economists" are often passed off as modern economic thinking, tirelessly repeated: "... the state must ... guarantee the inviolability of private property, separate property

and power, and cease to be the dominant owner, the subject of economic relations in the country." [Gaidar, 1995, p. 189].

But this is what the major Western philosopher Karl Popper pointed out in the mid 1940s: "The principle of government non-interference in the economy – the principle on which the non-statutory economic system of capitalism is based – must be discarded. If we want to protect freedom, we must demand that a policy of unlimited economic freedom be replaced by planned government intervention in the economy" [Popper, 1992, p. 146].

The failure of the liberal concept of non-interference of the state in the economy is shown by the fact that the modern state is no longer (and indeed already for a long time) just a political form of anything; in the present phase of economic society, the state (its activities) has almost become a major economic actor. Every year its regulatory role increases (the economy is being "governmentalised"), the state is becoming more and more intertwined with the economy.

P. Samuelson and W. Nordhaus point out: "...the state solves three main economic tasks: promoting efficiency, ensuring fairness and macroeconomic stability, and realising economic growth" [Samuelson and Nordhaus, 2005, p. 54]. The conclusion is obvious: the market alone cannot create economic growth, macroeconomic stability and production efficiency. Moreover, the coronavirus pandemic has demonstrated conclusively that spontaneous market development without state intervention is fatal for humans. Much is changing both in society and in economics: new problems and challenges are emerging that economic theory is called upon to solve.

The increasing influence of the state on economic development is now almost an accepted fact. Even American liberal-conservatives, very wary of new, modern opinions, have to agree. Thus, the American liberal economist R. Higgs writes: "The end of the nineteenth and the entire twentieth century was a period of unprecedented growth of state power, resources at its disposal and the scale of its intervention in the economic and private life of citizens" [Higgs, 2016, p. 9]. And further on: "Even a mere listing of the state's many powers would take several volumes, because its influence affects everything: farms, factories and shops; homes, schools and hospitals; science and technology; and even recreation and entertainment" [Ibid., p. 24]. And here is the observation of another American economist, Ch. Wilen: "The US Department of Agriculture now requires that every frozen meat pizza must contain at least 10 % meat" [Wilen, 2005, p. 309]. J. Stiglitz is also extremely clear about this: "...what we eat and drink is regulated by the state; where we live and what type of houses we can live in is regulated by various government services" [Stiglitz, 1997].

In our history, in the Soviet Union, this was more or less the case. Admittedly, in the USSR the state ran everything directly and openly, and few spoke of a market economy, whereas in the US the liberal market economy was paid lip service to, but in reality was dominated by state regulation, including planning. As J.K. Galbraith wrote: "Our economic system, under whatever formal ideological guise it may disguise itself, is in its essential part a planned economy" [Galbraith, 1969, p. 41].

As a reminder, the question of the economic role of the state has been raised more than once in Soviet economic literature. Suffice it to mention the school of N.A. Tsagolov at the Lomonosov Moscow State University, which explicitly stated that the state is an element of the economic base [Tsagolov, 1973]. Modern representatives of this school continue to develop similar ideas [Buzgalin, 2019; Kolganov, 2019]. Today, this trend is becoming more widespread; note that it is complementary to the ideas of the theory of Noonomy.

So the extent of economic regulation on the part of the state is currently increasing. The main reason for this, in our opinion, is the transition of production to a new technological mode, the considerable complication of the technosphere, the increase in its influence and the development of STP on social institutions, which is reflected in the change in the economic organisation of society.

Modern production is not characterised by the concentration of technologies/competences/overlaps in the "single producer" as the basic paradigm, but by the complex cooperation of different producers and their associations. (Note that in Soviet times (paradoxically for a planned economy) the "old regime" model of "subsistence economy" was very popular, with the aim of reducing dependence on "external forces", and enterprise managers were very proud of their "achievements"! – "Yes, I make everything myself – from the stick to the machine!"). The modern technological and production paradigm put an end to economic individualism and liberal capitalism. As our president says: "... the model of modern capitalism has exhausted itself". A peculiar "communitarianisation" of production is becoming an obvious fact. Moreover, information technology is becoming more and more important, making the state the most important economic actor: information itself is not a commodity – only state regulation can give it economic weight.

Thus, the state increasingly assumes a multitude of public and, above all, economic functions and becomes the economic institution of modern society. The understanding of the economy itself changes and takes on a new quality. Something similar is found in the concept of the 'welfare state', in which the state, as the government, pursues policies aimed at free or more accessible education, health care, housing, social security for the old and disabled, and material support for the sick and unemployed. The state in this case can be seen as a counterweight to the market, a mechanism that limits and corrects the actions of the market. "Governments," writes the famous American economist L. Thurow, "have always been actively used to alter the outcomes of the market economy, to distribute income more evenly than what the market would produce on its own" [Thurow, 1999, p. 288].

It is well known that today in almost all economically developed countries the share of the state in the distribution of the gross national product is quite high. In Sweden, Norway, the Netherlands and some other countries the level of public expenditure is over 50 % of GNP, while the European average is between 40 % and 45 %. In Russia, this figure has been around 30 % since 1992. In such a situation, it is difficult to implement public policies that ensure successful modernisation. A strong and capable state is necessary at this stage to ensure the reasonable, appropriate and balanced development of society. Expedient, purposeful and 'targeted' state action can only be expressed in various forms of economic and social planning, i.e. policies that are implemented and approved by the majority of the population.

Place of planning in the development of the modern economy

The problems of the world today are overwhelming – the misery of hundreds of millions and the poverty of billions, unprecedented inequalities in access to public goods, not only for certain segments of the population, but also for entire countries, the artificial stalling of human development, the unsustainability of the world economy to shocks of various aetiologies, and much more. The problem of the sustainability of social development has become so important and obvious that it has given rise to the well-known UN documents on achieving the Sustainable Development

Goals¹, numerous discussions at different levels – from Davos to Beijing², from G7 summits to World Social Forums³.

Since the reports to the Club of Rome, the threats to the global ecological balance from the pursuit of unrestrained and not always reasonable increases in consumption have long been apparent. But now the scale of these threats has become even more frightening⁴ [Zalasevich et al, 2017.]

Less obvious, but no less dangerous, are the threats posed by the senseless encroachments of the latest technologies on lifestyles and on human nature itself. The slowdown of economic growth with increasing wealth and income inequality is associated with social conflict [Piketty T., 2014]; [Bodrunov S.D., Galbraith James K., 2017].

The urgent need for a transition to a new kind of social structure of human productive activity does not arise by itself. It is not possible without specific work to support this process. A change in the present impasse of development is necessary to chart a different course that will resolve the growing contradictions and lead step by step to Noonomy.

Such a course requires a plan. A plan – as part of the strategy of transition to a new state of society. At the same time, we must understand that there is a concept of development, that there is a strategy that determines the long-term perspectives, the global goals and the main means to achieve them within the framework of the adopted concept. And the plan should be considered as an institution that defines the system of rules, the sequence of steps, actions and turning points on the way to the strategic goal. At the present stage – complementary and corrective to the market, whose "invisible hand" often points not towards progress but towards financialisation and regression.

But can a plan as an institution be in demand in the current environment? We believe it is. From our point of view, in the current situation, the plan is an objectively determined complement to the self-regulation of the market, but not an exclusive alternative to it.

Planning methods combine the advantages of self-regulation of the market with the advantages of systematic planning. On the one hand, this increases the efficiency of business models in economic processes; on the other hand, the negative effects of the business models used can be reduced in the interest of society and the development of a nootendency in the economy can be specifically promoted. Today, it is a prerequisite for the survival and reasonable development of society. Hence the growing interest in the planned methods of economic management.

Russia has a wealth of experience in this field. And at the same time, today more than ever, we need to define our path in a changing global world, the goals of development and rational ways to achieve them. Therefore, it is important that we are aware of the need to look for such ways. The formulation of the concept of development, the strategy for the future development of the

¹ United Nations. (2000). United Nations Millennium Declaration. Adopted by General Assembly resolution 55/2. URL: https://www.un.org/ru/documents/decl_conv/declarations/summitdecl.shtml; United Nations. (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. Resolution 70/1 adopted by the General Assembly. URL: <https://undocs.org/ru/A/RES/70/1>

² New Economy Forum (2019). Beijing, November 20-22. URL: <https://www.neweconomyforum.com/2019-new-economy-forum-beijing/>; World Economic Forum. (2020). Annual Meeting. Davos-Klosters, Switzerland. URL: <https://www.weforum.org/events/world-economic-forum-annual-meeting-2020>

³ World Social Forum. (2021). Opening and closing of the Virtual World Social Forum. URL: <https://wsf2021.net/>; G7 Summit. (2020). Video Teleconference Meeting March 16. URL: https://www.mofa.go.jp/ecm/ec/page4e_001055.html

⁴ Earth Overshoot Day. (2020). Global Footprint Network. URL: <https://www.footprintnetwork.org/our-work/earth-overshoot-day/>; United Nations. (2019). UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'. URL: <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/>

country and the use of the planning institute for the achievement of these goals – this is the triad, the realisation of which will make it possible to bring our country to the forefront of civilisational development.

Do we have the means for such work? We have many (though not all).

It should be noted that practically throughout the post-Soviet period the country developed without an identified strategy or good tools for its implementation. Leading economists emphasise how intolerable such a situation is: "Russia's historical experience and the experience of other countries show that sustainable development is impossible without full-fledged strategic planning adapted to the realities of Russia's modern socio-economic system" [Aganbegyan et al, 2020, p. 25]. And they add: "Strategic planning will enable society and the state to solve urgent development tasks that go beyond profit and private corporate interests and subordinate to the priorities of the development of the country as a whole [Ibid, p. 26].

Now we have a Strategic Planning Act (with all its flaws). There are goals for national development which indicate that we want to build a socially oriented society with a developed economy based on a new technological mode. There are many sub-goals for these national goals. There are national projects. And there are many sectoral, regional and other strategies. There are many different "plans".

But the quality of our strategic planning leaves a lot to be desired [Klepach, 2016, pp. 55-57]. The problems and the necessary improvements are described in detail in the book written by the author of this article together with V.L. Kvint, a foreign member of the Russian Academy of Sciences and professor at the Lomonosov Moscow State University [Kvint, Bodrunov, 2021]. This is a problem that is becoming existential for our economic development. Moreover, there is an urgent need to prepare a development strategy for the country and to use planning as the main tool for its implementation. In a broader sense – to revive the institution of planning in practise, taking into account modern conditions.

The government is working on a draft development strategy for Russia on behalf of the President of the Russian Federation. The horizon of the strategy is 2035 and a more distant perspective is 2050.¹

Several working groups have been formed to analyse options, mechanisms and resources. It is expected that targets will be defined and the direction of the main attack will be worked out.

Following the Russian President's call for a constructive discussion on this important issue, the experts of the Russian Higher Economic Council (a very representative group of the country's eminent macroeconomists) have, through complex discussions and difficult deliberations, prepared and submitted to the Russian government a document entitled "Russia's New Path (on Russian Development Strategy)"².

It focuses on five main directions in formulating the strategy:

1. *A new social model of development.* The main goal is to reduce the share of the poor and increase the share of the middle class. Measures include a comprehensive package of traditional but radically strengthened measures to support low-income and poor strata and social groups,

¹ Federation Council of the Federal Assembly of the Russian Federation (2019). Federation Council Committee on Economic Policy. Transcript of the parliamentary hearings on "Implementation of the Federal Law 'On Strategic Planning in the Russian Federation' in the constituent entities of the Russian Federation" on 28 May 2019. URL: <http://council.gov.ru/media/files/75Yfi7H4uLDDUQkiZLZ7SQON64FUH1MI.pdf>

² New ways of Russia (on Russian Development Strategy) (2021) // Free Economy URL: <http://freeeconomy.ru/vazhnoe/idti-svoim-putem-k-k-voprosu-o-strategii-razvitiya-rossii.html>

but also, for example, a fairly high Russia-wide standard of services and wages in the public and household sectors (while significantly increasing the share of wages in the national product), measures to reduce wage differentials between regions and between sectors, monetary policy adjustments and fiscal regulation of material inequality.

2. *Transition from lagging behind to scientific and technological breakthroughs and assuming leading positions in global scientific and technological competition.* Aim to double the pace of technological development and by 2035 to be not among the ten (as previously expected) but among the five world scientific and technological leaders in the basic directions of 6 technological formation; the main instruments are technological retooling of the industrial sector of the economy, investment in infrastructure, etc.

3. *Ecologically oriented development and the creation of an economic framework for the conservation of nature.* The priority is not so much to reduce the carbon footprint (where the US and especially the EU have recently been working and where they are now stumbling), but to make full use of natural resources while introducing and implementing high environmental standards under clean air, clean water and rational forest management approaches, as well as addressing the problem of industrial and domestic waste, etc., and supporting the introduction of environmentally friendly technologies in the traditional Russian energy sector.

4. *A new model of spatial development aimed at the rise of Central Russia and a new turn towards the East and the Arctic.* It is extremely important to move away from the specialisation of these regions on mineral extraction: "... in the situation of specialisation at the stage of extraction, if the extracted resources are not the beginning of broader technological cooperation relations within the region, no relevant multiplier effects are formed and the extraction of mineral resources does not create tangible impulses for the development of the area, as it has done so far. One consequence of the above-mentioned problems is the disintegration of the Russian economic space. This problem is particularly acute in the case of the territories of Siberia and the Far East...", notes academic V.A. Kryukov, RAS [Kryukov, Kolomak, 2021, p. 103].

To solve these problems, it is proposed to create new levels and mechanisms of territorial management and financing of regional development, a gradual transition from the current, almost entirely subsidised financing system – to self-sufficiency, self-financing and on this basis! – self-management, formation of regional and territorial development budgets, redistribution of taxes and other measures.

5. *The direction in the context of the Eurasian challenge.* The global centers of world economic development will inevitably shift eastwards, to the Asian continent, in the coming decades, and this must be taken into account. At the same time, a strong economic restructuring and reintegration of the Eurasian space is taking place, and Russia should contribute to this process and derive certain benefits from it. Therefore, it is Russia's task to create centers for economic, educational, scientific and social cooperation in our Asian neighbouring countries and economic partners, and at the same time to create and develop appropriate (currently lacking or poorly functioning) institutions.

In general, according to the experts of the Free Economic Society, Russia's development strategy should aim at creating an attractive model of life for its citizens, realising the possibility of balanced, sustainable development and ensuring the harmonisation of the goals of significant economic progress combined with the transition to a new state of society, NIS.2, while growing human prosperity and preserving nature.

Clearly, such a strategy requires a revival of the institution of planning. As the academic A.G. Aganbegyan rightly points out, "... without planning we have no real, effective unified economic policy. It consists of disparate, uncoordinated actions of state-controlled enterprises, state banks, the federal budget, the budgetary expenditures of the regions, is the sum of their efforts, which no one brings together, no one properly controls, no one corrects. Even within the public administration, there is no unified leadership" [Aganbegyan, 2019, p.187].

It is necessary to develop a system of forecasting and indicative planning of the socio-economic development of the country in accordance with the Strategic Planning Act. At that, based on the peculiarities and regularities of the current state of scientific and technological progress and the level of socio-economic development of the country, prospective forecasts and projections should be formulated for 15-20 years and more, refined medium-term forecasts – for up to 10 years, specific short-term ones – for 1-3 years. The latter could form the basis for the preparation of annual and three-year indicative plans for the country's development, including the characteristics of all key macroeconomic parameters and the instruments for the implementation of public policies and public sector development programs for which the state budget should be prepared. As RAS academic S.Yu. Glaziev rightly points out, "...the recommendatory character of the indicative plan should be combined with its directive character for officials and public administration bodies at all levels" [Glaziev, 2005].

What is required to create such a planning system, outlined here? Many colleagues think that it would be appropriate to return to the idea of the state plan (in a form appropriate to the current situation) in order to create some kind of body to coordinate this work. Such ideas have been put forward before [Klepach, 2016, p. 52; Oreshin, 2016, p. 90] as a logical conclusion from the historical experience of the USSR and other countries that used planned economic methods. Indeed, the existence of an economic strategy implies the use of strategic planning as a tool for its implementation, and this is impossible if the state agencies that develop plans, resource them, take measures to target economic promotion of enterprises and are responsible for achieving strategic goals are inconsistent.

Note, however, that for a long time not only the idea of planning but even of an active industrial policy was anathema in our country. It was believed that market self-regulation was the universal and most effective way to solve all problems always and under all conditions, while government intervention only distorted the market equilibrium [Yasin, 2003, 2004]. Today, however, given the depth of the problems facing the Russian economy, it is impossible to rely on an idealised image of market forces acting automatically: "The Russian economy is in a state of structural and technological imbalance, characterised by a disproportionate distribution of the factors of production and financial resources. To address this type of imbalance, a specialised structural and investment policy is needed: a set of measures aimed at smoothing the imbalances of a sectoral, technological and spatial nature that hinder interaction between economic sectors and cannot be eliminated by traditional market mechanisms" [Ivanter et al., 2017, p. 8].

Russia needs a breakthrough in modernisation. The myths of market fundamentalism and post-industrialism have shown that they are untenable. We are not proposing to abandon the market in Russia, but we want to supplement it with planned methods, because in our opinion this is the only way to solve the problem of economic reindustrialisation on a new technological basis (primarily on the basis of knowledge-intensive production appropriate to the transition to

NIS.2 production) in the first phase of modernisation and progress towards a socially oriented state, a fairer social structure and Noonomy – in the subsequent stages.

Need for a national development strategy

The movement towards Noonomy should be based on the already emerging possibilities and preconditions for its emergence. The most important of these, as shown above, is the possibility of a conscious and purposeful improvement of social relations. In other words, the transition from NIS.2 to Noonomy should be carried out as a long-term strategic project, consciously calculated and implemented in stages. The most developed concept for the formation and implementation of such projects to date is that of Academician V.L. Kvint [2019, 2020].

In order to realise progress towards Noonomy as a strategic project, it is important to understand that in this case the goal of the strategy is not Noonomy as such. The strategy is based on certain interests and key values of society. What are these orientations?

The aim of any development strategy is to improve the quality of life of individuals and society. The complexity of this task is that it must be determined which specific interests and values will lead to an increase in the quality of life at a given point in time. These form the basis for the formulation of strategic priorities. But even this is not enough. It is necessary to identify for which priorities we can ensure the formation of benefits that will enable meaningful progress to be made, rather than wasting resources at this stage in pursuit of tempting but utopian goals [Kvint, 2018].

Quality of life is not only a general reference point, but also an abstract one that does not fully reveal the specific priorities of the strategy or the benefits that can be leveraged to achieve them. The definition of quality of life will vary greatly for different social conditions and levels of economic development, as will the means to achieve it. But we can already say that the modern understanding of quality of life should be connected with the creation of conditions for the development of human creative abilities [Kvint, Okrepilov, 2014, p. 425].

The study of modern objective trends, which allow conclusions to be drawn about the development of society towards Noonomy provides information about important interests and values, as well as advantages on which we can base the achievement of our goals. Priorities need to be refined based on the national specifics of the object of the strategy. For Russia, for example, it is about unconditional reindustrialisation on the technological basis of the NBICS paradigm as a necessary step to ensure subsequent strategic shifts.

The strategy of moving towards Noonomy has a very long implementation horizon and requires the achievement of intermediate goals, each led by a specific strategic project. The implementation of the first strategic project always requires a change in strategy and the development of a new project leading to the next strategic milestone. As V.L. Kvint notes, "...even the most successful strategies reach a stage where, due to changing conditions or needs, the transition to a new strategy must begin" [Kvint, 2019, p. 28]. We can tentatively assume that for our country the first such milestone will be reindustrialisation in the aforementioned version, then – the formation of NIS.2, and after that – the direct transition to Noonomy. Each of these milestones requires a specific formulation of interests and priorities, as well as strategic advantages, which together will determine the concept of strategy for each stage of development.

The concept of Noonomy makes it clear that regardless of the specifics of each milestone, the goals and priorities should be formulated with the need to ensure the conditions for human de-

velopment. At the same time, we have to deal with the fact that we are still in an economic society and cannot abandon the economic criteria of rationality. This affects the interests and priorities of our society and remains an essential, if not the most important, component of the criteria basis for people's behavioural choices. As we seek to curb the unbridled desire for more consumption, we must take into account the fact that a significant proportion of society does not yet have the basic necessities of life. It is important that simultaneously with the solution of this problem, the material and spiritual conditions are created for the expansion of opportunities for creative activity, for the appropriation of cultural wealth and for the formation of criteria of consumption that are reasonable on this basis [Kvint, Bodrunov, 2021, pp. 114-126].

As for the benefits that could result from the strategy of moving towards Noonomy, they should be specified in relation to each phase of this movement. For example, the potential benefits for reindustrialisation lie in the ability to combine the flow of revenue from resource exports with the capacity for basic research, the persistence of engineering and design schools, and an industrial base in a range of high-tech sectors. To reach the NIS.2 stage, a substantial increase in human reproduction would need to be added to these strengths. In the transition from one stage to another, the benefits of personal fulfilment and the development of a "cultural man" should be enhanced. This is seen not only as a crucial developmental priority, but also as a major developmental advantage.

Nevertheless, purely economic criteria of activity will play a significant role in the intermediate stages and man will not yet completely lose his characteristics as an "economic man". Only with the establishment of the NIS.2 stage will the conditions be created for the role of economic forms and relationships mediating and regulating human productive activity to be gradually reduced. Through the use of "trust technologies", the sphere of economic mediation will shrink, while the massive removal of humans from direct production will lead to the removal of the shell of production relations from social relations. Only on such a basis is it possible to move from economic rationality to a rationality based on the criteria of reason and culture.

The concept of Noonomy directs the strategy of social development towards the elaboration of essentially new technologies, which are the result of pioneering scientific research and are based on the use of the highly developed human intellect. It is precisely such technologies that will ensure that the intensity of material resources in production decreases and that people are transferred from the direct production process to the spheres of creative activity.

This kind of breakthrough research and the resulting technologies are essential to the strategy. Their development and application makes it possible to achieve the strategic objectives formulated above at every stage of the strategy, which aims to improve the quality of life in all its aspects. Therefore, the system of search and transfer of innovative developments is important to discover and use them to ensure the priorities of the strategy [Kvint, Khvorostyanaya, and Sasayev, 2020, p. 1176].

Strategy development should not only capture current development trends to draw upon, it should also forecast, determine the potential impact and incorporate trends that have not yet manifested or emerged into the strategy process. "The most innovative and potentially successful strategies are based on the analysis of trends and patterns that have not yet been identified at the beginning of strategy implementation" [Kvint, 2015, p. 6].

Maintaining the orientation towards the narrow criteria of economic rationality, when everything that brings economic benefits is rational, does not allow to abandon the unrestrained

absorption of natural resources, which is accompanied by the pollution of the natural environment, climate change, loss of biodiversity and direct destruction of natural objects necessary for human existence.

The resolution of this contradiction requires a paradigm shift in social production and in the criteria for determining production goals and human needs. The basis for this is the increasing knowledge intensity of production and the gradual displacement of the human being from the production process into the sphere of creative activity. The main goal of production is not the volume of consumption, but the development of human creativity. The place of the economy is gradually taken by Noonomy, a non-economic form of satisfying needs based on criteria of reason and culture.

To avoid conflicts and zigzags on this path, it is necessary to make the movement towards Noonomy manageable; to develop a long-term strategy of gradual movement from frontier to frontier – via reindustrialisation to NIS.2 and then to Noonomy. As far as national development goals are concerned, improving the quality of life and moving towards a society capable of providing decent living and working conditions is the task that should be at the centre of the national development strategy. In this case, from the Noonomy's point of view, quality of life means not only a rational level of consumption (according to reasonable criteria), but also the conditions for human development and the improvement of the cultural level in the process of creative activity. On such a basis, it is also possible to eliminate risks associated with the violation of the reproduction of the natural environment.

The realisation of this mission can be seen as the main message that the strategy of the movement towards Noonomy addresses to our country and to humanity. In fact, it is about changing the perspective of many civilisational attitudes and the social nature of human personality.

Through socialisation to a cultured person

In the course of his (historical) development, man becomes more and more a nootype being, a humanistic being who takes into account not only his own interests, but also the interests of the surrounding space, society, environment, etc. There is a movement from zoo to noo, and it is historically confirmed. Another question is: How can we ensure the priority of this movement, increase the speed of movement towards "noo" and slow down the negative processes that reduce man and society to "zoo"?

The general layer of human knowledge and norms of behaviour that is simultaneously formed on its basis – the general culture of man, of society. We see that this cultural component of being is constantly growing and developing. Of course, there have been reverse situations in history, yet we understand that the general level of culture in modern society is much higher than it was a thousand years ago. However, many features of the "original" attitude to life have been preserved in some people who have not yet sufficiently "entered" this cultural space.

This is the crux of the matter. What does it mean to "enter"? We understand that people have not entered the cultural space to the same extent: Some layers of society, some individuals or their communities are more receptive to the layer of knowledge called culture that leads to the development of human nooneeds, to the formation of one's attitude to life as a noohuman being, and some – less.

We see numerous examples of the "inadequacies" of contemporary society in this regard, and in some places there is a deliberate construction of the system that restricts people en-

tering the cultural space, does not allow them to form themselves as persons stupefies them. And this does not happen by accident, because *restricting a person's access to culture is a prerequisite for manipulating him*. As is easy to guess, finance capital and its satellites are involved.

The satellites are its derivatives, its siblings, its children and grandchildren: in particular, poverty, inequality, limited access to the consumption of cultural phenomena, education, etc. – all of this leads to a lack of access to the arsenal of knowledge and cultural goods that enables the shaping of the noohuman being. All this is also used to justify the thesis of man as an animal-like being, the speculation that it is impossible in principle to get rid of the "zoo".

The theory of Noonomy fundamentally contradicts this. Every human being is endowed from birth with the preconditions of "noo". As we know from social psychology, the preconditions do not determine the abilities, but are a prerequisite for their formation and development. What influences their formation? In the language of the same social psychology, the mechanism of this formation is the generalisation and consolidation of the whole range of mental processes that are a reflection of the external world and its effects on the individual, shaping his world view, anchoring "codes" and values in his consciousness and enabling him to perceive the world and society.

We live in a world where scientific, scientific-technical and technological progress goes hand in hand with the progress of social knowledge, knowledge about man, society and its characteristics. In fact, social research began later than scientific, technological and technical progress, although the earliest direction of such a general development has been presented in philosophical treatises and ideas for more than two thousand years. But the study of man as a social being, as an individual in society, began with the development of the psychological and social sciences towards the end of the nineteenth century and continued throughout the twentieth century, becoming more widespread in the second half of the twentieth and early twenty-first centuries.

The term 'socialisation' was first used in the late nineteenth century by the sociologist and philosopher Georg Simmel, who defined it as the formation of social groups. Sociologists Franklin Giddings [Giddings, 1897] and Jean-Gabriel Tarde [Tarde, 1890] brought the meaning closer to the modern understanding of the concept by considering it as the formation of the human personality under the influence of the social environment.

Today, the term is used in many social sciences and in very different meanings. Economic theory understands socialisation as a tendency of the economy to become more socially oriented, rather than a person mastering a system of social norms and stereotypes. Such a social orientation of the economy is based on a broad production of public and trustworthy goods [Rubinstein, 2011] with the mediation and direct participation of the state. This implies the development of state regulation of the economy, budgetary financing of education, science and health care, social support for the population.

But economic theory cannot ignore the problems of socialisation in the sense in which they are considered in sociology. The fact is that the role of man in modern production is changing fundamentally; he functions primarily as a carrier of knowledge – the most important resource of economic development. And the fate of our civilisation depends on the criteria according to which the enormous power of modern knowledge is used. The degree of human social responsibility becomes crucial to production.

Both scientific and technological progress and the diminishing desire for property and the development of the creative functions of labour are pushing people to become more responsible, cultured and social, people who value their social task and social recognition rather than the endless pursuit of material goods absorption. In this way, a person goes from "zoo" to "noo" step by step, changing not only his own behaviour but also the core of the moral norms and values on which he relies.

An individual is socialised by in turn socialising society – the environment in which he lives. And it is important not to overlook this "flip side" of this process. The human being in the process of socialisation is not just a passive recipient of social norms, public morals, social stereotypes. No, a person who is socialised has an active influence on the values and socio-cultural norms developed by society. Not only are people socialised under the influence of society, but society is also socialised under the influence of active human activities that change the established cultural and moral norms, values, motives and the corresponding social institutions. If the content of the process is meaningful and coordinated human efforts to appropriate the best achievements of human culture, it will provide for the expansion of social space, for the movement towards no society.

Our proposed interpretation of the concept of "socialisation of society" allows us to understand that the combination of our approach, connected with technological development, with the idea of advanced knowledge of social knowledge by man, the formation of social structure through the mechanism of socialisation and gradual movement towards a new man (in the sense of his adaptation in society and the adaptation of society "among itself", among real needs), the movement towards self-restraint and others, is what should be taken into account in the *practical activity* of the state institutions.

Let us note that *the idea of man as a social being shaped by society and shaping society is not new*, nor is the question of whether man makes history. But it takes on new significance in the light of the problems explored in the theory of Noonomy.

It is important to understand that the individual in society is 'coded' by society, adopting in the process of socialisation the moral core as a "code" that constitutes the social essence of society at the moment and is determined by its inherent value criteria. In this sense, the individual is socialised. But the individual acting on society "socialises" it by changing its moral value core, and the task is *to change this core in the direction determined by the criteria base*. Discovering, expanding and mastering this knowledge, incorporating it into the moral value core, is an important aspect of the task of socialising society, "making" it more "social", non-individualistic, more agreeable to the individual, more "noo"-oriented.

If we add to this the process of man's knowledge of his needs, that is, if we combine these two processes of acquiring knowledge of the one kind and of the other into a single whole, then with these mechanisms and methodological developments we obtain the key to the solution of the problem of the ascent to the "noohuman". The key to the formation of a human being who is not only non-economic (who does not use economic mechanisms to satisfy his needs), but who consciously works on himself and does everything necessary to achieve a sufficient level of prosperity (socially, materially, mentally, spiritually) on the one hand, and on the other hand does not feel the need (a real need!) to expand the production of what cannot be achieved at this stage of development without harm to society, the environment and other human beings.

On such a path we see the way to a gradual reformatting of the present civilisational, socio-cultural attitudes. But what should be the basis and content of such reformatting, which is on the agenda today?

The principle of solidarity

Unfortunately, technology is now ahead of culture and human understanding of "what can and cannot be done". Humanity is also in no hurry to solve the problems described in the UN development goals. But the objective forces and challenges of existence demand their solution. The great scientists and engineers who developed the atomic bomb later realised that it could not be used and made efforts to prevent it. This is a vivid example of human awareness of the need for limits in the application of technological capabilities. The Caribbean crisis in the middle of the last century, when politicians were able to negotiate and find ways to eliminate emerging threats and dangers, is also an example of this.

The development of modern technology and the associated risks not only increase the need for social harmony, but also create conditions that are not automatically implemented because they come up against the barriers of established interests and social stereotypes. This makes it all the more important to understand the ideological basis of the transition to a society liberated from economic rationality.

The most important principle of such an ideology seems to be the principle of solidarity, on the basis of which a social and institutional framework can be created that enables conflict-free interaction between individuals and social groups.

We are not talking here about the "solidarity economy" (e.g. cooperatives and networks of aid associations), although these phenomena have some connection to the phenomenon of solidarism. We are talking here about a much broader phenomenon that involves the interaction of all social actors on a qualitatively new level. The fundamental point is the abandonment of social conflicts, disputes, enmity and competition. These social phenomena are increasingly dangerous for society in the modern stage of development. In this context, M.K. Gorshkov [2012, p. 24] states: "...random revolutions and transformations or violent upheavals do not ensure a qualitative restructuring of society, a genuine renewal of public consciousness".

They are replaced by other bases of interaction between people: the search for a common platform of values and development goals, the development of mutually acceptable ways of solving problems and organising joint activities, and the search for compromise even in the face of divergent interests. To this end, the main motives of people's actions should not be profit or power, but creative service to society," says RAS Corresponding Member J.T. Toshchenko [2020, p. 312], and we agree with him.

Solidarism is a concept formulated in the middle and second half of the 19th century, aimed at achieving mutual trust, cooperation and solidarity among different strata of society; uniting the efforts of different classes, parties and public organisations representing certain interests. The realisation of the ideas of solidarism takes place through voluntary associations and also through the system of contractual relations that define the safeguarding of general interests.

The philosopher and economist Pierre Leroux [Leroux, 1840] and the jurist Léon Bourgeois [Bourgeois, 1896] were the founders of the development of the concepts of solidarity. Both wanted an end to social enmity and a turn towards cooperation, the alleviation of social contrasts through a tax system and various social support programmes. They advocated the ideals of democracy,

equal rights for citizens and the desire for understanding between different social groups and classes.

In the twentieth century, the ideas of solidarism found application in the political and ideological practise of various political parties and social movements, even if they have not yet experienced consistent practical implementation. This is probably inevitable in an economic society permeated by an objectively determined division of socio-economic interests, leading to acute conflicts between different social classes and groups. However, the changes in the conditions of production, which create the material basis for a higher satisfaction of the needs of life and thus for overcoming the bitter struggle for subsistence, also create new, more favourable conditions for the realisation of ideas of solidarity.

We can already see some germs of the practical realisation of this idea in the forms of "solidarity economy" that have noticeably developed (as mentioned above). We can predict a further expansion of its application, which will be part of the process of forming transitional stages of the movement of human civilisation towards non-community.

It is clear that modern society still has a market-capitalist, economic basis. In such a society, real relations and institutions based on solidarity can, in most cases, only have a latent (hidden) or marginal existence within the prevailing system of relations. Solidarism is closely linked to the socialisation of society and the economy, which creates the basis for economic progress and the mitigation of social contradictions.

As society remains economic at this stage, economic means should be used to achieve this development. Here we need to look at the possibilities that lie in strategic planning tools and proactive industrial policy to support this development. The potential that lies in the social orientation of the economy and the development of different forms of co-production, sharing, appropriation, use and consumption must be used.

In our opinion, Russia's development strategy should include the use of all instruments to form such an economic and social model that rejects relations of domination and subordination between social subjects, the struggle for unilateral advantages and preferences. The existing socio-economic institutions, including the institution of property, still preserve this approach. But further development and the search for a way out of the looming crisis of civilisation urgently require that the interests of the various subjects be taken into account, that a compromise between these interests be sought, and that all contradictions that intensify in the productive, ecological and social spheres be overcome in solidarity.

The awareness of this need is reflected in the concepts of "stakeholder capitalism" [Measuring..., 2020] and co-competition, which implies the combination of cooperation and competition (co-competition) [Brandenburger, 1996]. The continuing turn towards the study of the increasing importance of cooperative relations and mutual consideration of interests is another argument for recognising the concept of solidarism as a promising ideological basis of the movement towards society.

The value of solidarity-based public relations is also recognised in our country. Recently, the Russian Constitution was amended, with Article 75.1 worded as follows: "In the Russian Federation ... A balance is ensured between the rights and duties of citizens, social partnership and economic, political and social solidarity"¹.

¹ Website Consultant.ru. URL: http://www.consultant.ru/document/cons_doc_LAW_28399/844d980197f23461acb5a6699db6e34227150003/

Conclusion

In summary, the question is: where can we find guidelines for the transition to a qualitatively new state of social existence?

In doing so, we are certainly aware that there are many problems, and they are a consequence of the real economic policies of the world powers, which are far from always taking the right measures for positive development. It is also clear that the road to Noonomy and to a no-social order will not be a straight line and that many "sideways movements" and steps backwards are inevitable along the way.

The theory of Noonomy is meant to help solve these problems by setting goals, by pointing to a future we should strive for; if we move towards it, we will overcome the problems we face. Noonomy shows us the path ahead and the priority milestones along the way.

References

- Aganbegyan A. G. (2019). Drivers of Socio-Economic Growth. Scientific Works of VEO of Russia. Vol. 218. Pp. 180–209. (In Russ.)
- Aganbegyan A. G., Klepach A. N., Porfiryev B. N., Uzyakov M. N., Shirov A. A. (2020). Post-Pandemic Recovery: The Russian Economy and the Transition to Sustainable Social and Economic Development. *Forecasting Problems*. No. 6. Pp. 18–26. (In Russ.)
- Bodrunov S.D. (2021). What is Noonomy? A(O)ntology of Noonomy. Fourth Technological Revolution and its economic, social and humanitarian consequences. St. Petersburg: INID Publ. Pp. 19–92. (In Russ.)
- Buzgalin A. V. (2019). State in the Economy of the XXI Century: Political Economy Interpretation. *Economics of Contemporary Russia*. No. 3. Pp. 7–18. (In Russ.)
- Gaidar E. (1995). *State and Evolution*. Moscow: Evrazia Publ. 208 p. (In Russ.)
- Glaziev S. Y. (2005). *Future Choice*. Moscow: Algoritm Publ. 352 p. (In Russ.)
- Gorshkov M. K. (2012). Society – Sociology – Power: Questioning Interaction. *Sociological Studies*. No. 7. Pp. 23–28. (In Russ.)
- Galbraith J. (1969). *The New Industrial State*. Moscow: Progress Publ. 480 p.
- Ivanter V. V., Porfiriev B. N., Shirov A. A., Shokin I. N. (2017). Basis of Structural-Investment Policy in Modern Conditions of Russian Economy. *Finance: Theory and Practice*. No. 1. Pp. 6–15. (In Russ.)
- Kvint V. L. (2015). Development of Strategy: Scanning and Forecasting of External and Internal Environments. *Administrative Consulting*. Vol. 79. No. 7. Pp. 6–11. (In Russ.)
- Kvint V. L. (2018). To the Analysis of the Formation of a Strategy as a Science. *Herald of CEMI*. No. 1. (In Russ.)
- Kvint V. L. (2019). *Concept of Strategizing*. Vol. 1. St. Petersburg: North-West Institute of Management of Russian Presidential Academy of National Economy and Public Administration Publ. 132 p. (In Russ.)
- Kvint V. L. (2020). *Concept of Strategizing*. Vol. 2. St. Petersburg: North-West Institute of Management of Russian Presidential Academy of National Economy and Public Administration Publ. 162 p. (In Russ.)
- Kvint V. L., Bodrunov S. D. (2021). *Strategizing Societal Transformation: Knowledge, Technologies, Noonomy*. St. Petersburg: S.Y. Witte INID. 351 p. (In Russ.)

- Kvint V.L., Bodrunov S.D. (2023). *Strategizing Societal Transformation: Knowledge, Technologies, and Noonomy*. Oakville, USA: Apple Academic Press. 228 p.
- Kvint V. L., Okrepilov V. V. (2014). Quality of Life and Values in National Development Strategies. *Herald of the Russian Academy of Sciences*. Vol. 84. No. 5. Pp. 412–425. (In Russ.)
- Kvint V. L., Khvorostyanaya A. S., Sasaev N. I. (2020). Advanced Technologies in Strategizing. *Economics and Management*. Vol. 26. No. 11. Pp. 1170–1179. (In Russ.)
- Klepach A. N. (2016). Turning to Strategic Planning: Thorns and Perspectives // *Problems in Political Economy*. No. 1. P. 44–63. (In Russ.)
- Kolganov A. I. (2019). The Future of State in the Economy: Russian Discussions and Their International Context. *Economics of Contemporary Russia*. No. 3. Pp. 18–29. (In Russ.)
- Kryukov V. A., Kolomak E. A. (2021). Spatial Development of Russia: Main Problems and Approaches to Overcoming Them. *Scientific Works of VEO of Russia*. Vol. 227. Pp. 92–114. (In Russ.)
- Oreshin V. P. (2016). Economy Planning Potential. *Problems in Political Economy*. No. 1. Pp. 44–63. (In Russ.)
- Plekhanov G. V. (1956). *Our Differences. Selected Philosophical Works*. In 5 Volumes. Vol. 1. Moscow: Socio-Economic Literature Publishing House. 848 p. (In Russ.)
- Popper K. (1992). *The Open Society and Its Enemies*. In 2 Volumes. Vol. 2. Moscow: Fenix Publ., Cultural Initiative International Foundation. 528 p. (In Russ.)
- Rubinstein A. (2011). A Theory of Patronized Goods: Inefficient and Efficient Equilibria. *Problems in Economy*. No. 3. (In Russ.)
- Samuelson P., Nordhaus V. (2005). *Economy*. 16th edition. Moscow: Williams Publishing House. 1328 p. (In Russ.)
- Stiglitz J. (1997). *Economics of the Public Sector*. Moscow: MSU Publ., INFRA-M Publ. 720 p. (In Russ.)
- Thurow L. (1999). *The Future of Capitalism: How Today's Economic Forces Shape Tomorrow's World*. Novosibirsk: Sibirskiy Khronograf Publ. 432 p. (In Russ.)
- Wheelan C. (2005). *Naked Economics: Undressing the Dismal Science*. Moscow: ZAO Olimp-Biznes. 368 p. (In Russ.)
- Higgs R. (2016). *Crisis and Leviathan: Critical Episodes in the Growth of American Government*. Cheblyabinsk: IRISEN Publ., Sotsium Publ. 454 p. (In Russ.)
- Chomsky N. (2012). *Government in the Future*. Moscow: Alpina Non-Fiction Publ. 104 p. (In Russ.)
- Tsagolov N. A. (1973). *Course on Political Economy*. In 2 Vol. Vol. 2. Moscow: Ekonomika Publ. 670 p. (In Russ.)
- Yasin E. G. (2003). *The Non-market Sector: Structural Reforms and Economic Growth*. Moscow: Liberal Mission Foundation. 88 p. (In Russ.)
- Yasin E. G. (2004). *A New Epoch, Old Troubles: Economic Policy*. Moscow: Novoe izdatelstvo Publ. 456 p. (In Russ.)
- Bodrunov S. D., Galbraith James K. (2017). *New Industrial Revolution and Inequality Issues: Study Guide*. Ed. by S.D. Bodrunov. Moscow: Plekhanov Russian University of Economics. 122 p.
- Bourgeois L. (1896). *Solidarité*. P.: Colin. 470 p.
- Brandenburger A. M., Nalebuff B. J. (1996). *Co-opetition*. New York: Doubleday. 290 p.
- Giddings F. H. (1897). *The Theory of Socialization*. New York: The Macmillan Company. 66 p.
- Leroux P. (1840). *De L'humanité de son Principe, et de son Avenir où se Trouve Exposée, la Vraie Définition de la Religion et où l'on Explique le Sens, la Suite, et L'enchaînement du Mosaisme et du Christianisme*. T. 1. Paris: Perrotin, Éditeur-Libraire. 467 p.

Sergey D. Bodrunov

Piketty T. (2014). *Capital in the Twenty-First Century*. Cambridge, MA: Harvard University Press. 816 p.

Tarde J.-G. (1890). *Les Lois de l'imitation: étude sociologique*. Paris, Félix Alcan. 431 p.

Zalasiewicz J., Williams M., Waters C.N. etc. (2017). *Scale and Diversity of the Physical Technosphere: A Geological Perspective*. The Anthropocene Review. Vol. 4. No. 1.

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