STAGES AND PROBLEMS OF RUSSIAN MODERNISATION AND FEATURES OF SOVIET INDUSTRIAL CONSTRUCTION IN THE 1920S AND 1930S

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Abstract. This paper considers modernisation as a historical phenomenon in the world-wide context and from the point of view of the historical development of Russia. The interrelations of the stages of Russian modernisation and their principal features, as well as the key positions, causes and results of industrial construction as its main components, are analysed. Much attention is paid to the most important features and historical role of Soviet modernisation, in particular its endogenous character. The stipulation of the forced version of Soviet industrialisation is shown. We conclude that the success of an industrialisation process is determined not only by the form of the political system, but also by the civilisational features of the particular country.

Keywords: industrialisation, historiography, modernisation, reconstruction, technologies.

Introduction
The processes that take place in the socio-economic, political and cultural spheres of industrialised countries have always been of great interest. The change in the paradigms of social development and the radical reorganisation of management mechanisms are particularly peculiar to our time. This applies primarily to Russia, which experienced the geopolitical catastrophe associated with the collapse of the Soviet Union in the late twentieth century. The destructive processes in the economic, social and ideological spheres had a significant impact on the standard of living of the majority of Russian citizens. But the achievements and role of our country in the last century in the field of industrial construction have also been questioned. The modern challenges
of innovative breakthrough that Russia faces actualise the need for a deeper and more comprehensive study of modernisation processes and the experiences of industrial construction, both foreign and domestic.

Of course, one cannot talk about the problems of the correlation of the geopolitical positions of governments or the problems of modernisation in a particular country without taking into account the experience of the past. It reveals the characteristic features of a particular civilisation. Each of them, as is known, has its own peculiarities and a historical code. It is filled with moral, ideological and cultural content. The system of economic relations with its own set of functions and tasks correlates with the external forms of civilisation and its derivatives. Indeed, the study of the laws of economic development, including industrial development with its characteristic and special features, helps in the better understanding of the socio-economic situation of our time. There are also interactions of a civilisational nature in these laws.

**Materials and methods**
The study is based on an analysis of published sources and achievements of domestic and foreign historiography on this topic. Some archival documents about issues of industrialisation at the regional level are also given. The paper uses some problematic/chronological, synchronous and historical-genetic methods of investigation. The problematic/chronological method made it possible to evaluate and solve some specific tasks within the investigated problem in its dynamics and time-dependent transformations in time. The synchronous method helped in consideration of the structural characteristics of the studied phenomenon during different periods of time. The historical-genetic method was used to discover the cause-effect relationships and objective laws of this historical phenomenon.

**Results**
**The idea of progress and the phenomenon of modernisation**
Competition between ancient Greece and the Persian Empire, the conquests of the Roman Empire, the coming of the huge army of Genghis Khan, then the crusades - all these were not just wars. The other side of these events was the mutual familiarisation of cultures, Western and Eastern. A qualitatively new stage in the mutual influence of civilisations occurred in the era of the Enlightenment and the Age of Discovery. On the one hand, it was associated with the formation of a humanistic worldview in European countries, and on the other hand, with the growth of the productive forces and the industrial revolution, the population of European countries began to believe in linear progress. The idea of progress overturned old ideas about history as a cyclic process similar to a biological being.
According to Teodor Shanin, this idea appeared as a response to two essential questions. The first one was associated with a rapid increase in knowledge of how diverse humanity is. And the second mystery for Europeans was associated with the perception of time and, as was mentioned above, with the idea of the cyclical nature of history. The world is diverse because different societies are at different stages of development. A change in society is the inevitable passage through a variety of existing social forms. The task of social theory is to give an understanding of the natural sequence of stages of social development from the past to the future. The obligation of an enlightened ruler is to use the discoveries of scientists in order to accelerate the natural movement forward by suppressing the forces of regression. Therefore, there was a belief that the world can be understood, explained and reformed on a scientific basis taking into account its objective laws.  

The epoch of the early modern period had its own philosophical statements: “rational development,” “production growth,” “progressive movement” and “civilising mission.” On the basis of achievements of science and production, we have come to an understanding of what is termed modernity. Modernisation was understood as the process of the assimilation and reprocessing of modern forms (the highest ones according to the idea of progress) of the economic, social and cultural life of society. But apart from temporary (in terms of linearity) and pluralistic (in terms of the diversity of countries and civilisations) contradictions, modernisation had another serious problem: the split of the world into “Western” and “not Western.” This was not by accident; such countries as England, France and Holland had advanced technologies in the seventeenth and eighteenth centuries. The technological aspect of modernisation was supported by the USA beginning in the second half of the nineteenth century; they became active members of the “Western world.” In general, a hundred years ago, there were stable beliefs about the unconditional superiority of the West, and it was further believed that this would always be so.

However, as a result of centuries-old development, the most dynamic centre of economic life subsequently shifted to the Asia-Pacific region, a region which had been badly damaged during the Second World War. According to many researchers, it was neither imitation nor appeals to look to the US or Western Europe that stimulated the development of these countries, but the creation of national ideologies that united both traditionalists and modernisers. The positive side of modernisation was viewed not as a radical change in value systems; rather, modernisation’s technical and technological side was perceived, which allowed countries to

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1 Shanin 1998, p. 34-36.
develop economically while preserving the most important properties and characteristics of their nations. The ideology of consent for modernisation is an essential condition of development if it is to allow the survival and preservation of national cultures. Thus, in Russia, modernisation cannot be carried out in neglect of such archetypal qualities of Russians as sincerity, i.e., the inability to abstract relationships, and the existence of sacred things - beliefs in ideals.²

During the early modern period, the civilisational parameters of the most active countries and nations were better defined and shown. It is not just a matter of technology. Technology often worked not for the material welfare of mankind, but for colonial seizures and the oppression of people for the sake of the political and financial circles of a number of countries. In this case, modernisation was (in a broad sense) both a motivation and a factor in broad colonial expansions. This, one way or another, continues to this day. And this is also a serious geopolitical aspect of the problems of modernisation processes. We should carefully consider assessments of this issue by both Russian and non-Russian scientists. In particular, Paul Rabinow notes that there seems to be no point in discussions about modernity; the term represents too many different phenomena, and it seems either pointless or just part of the modernisation process to concern ourselves overly with abstract definitions. “It would seem more heuristic and more ethnographic, to explore how the term has been understood and used by its self-proclaimed practitioners.”³

Enlightening ideas about nationhood, rationality and natural rights that appeared in Europe in the seventeenth and eighteenth centuries made the West a modern society. It took some time for “non-Western” traditional societies to adopt its socio-economic principles and ideas. Along with modernisation as a natural process of borrowing these elements, Western countries relied on “Westernisation.” This process historically entailed a violent initiation as its form was usually the colonisation of countries and territories. Aleksandr Sergeevich Panarin, the modern researcher, notes that the same culture in different phases has different chances of dissemination in the world. “Thus, Western European culture in the Age of Discovery could scare representatives of other cultures with a militant” civilising mission. “On the contrary, as soon as it began to grow into the next phase - a consumer-hedonistic one connected with cultural pluralism and religious tolerance, its communicative capacity has grown immeasurably.”⁴

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³ Rabinow 1989, p. 9.
⁴ Panarin 1993, p. 75.
Stages of Russian modernisation

The attractiveness of Western technological innovations was reflected almost as a creed in the Russian reforms of the first quarter of the eighteenth century. They were carried out by Peter I in parallel with solving the most important geopolitical tasks: the recovery of the Baltic Sea gateway and the consolidation of positions on the north-eastern coast of the Black Sea. Peter, who was nicknamed Peter the Great by foreigners, studied by himself and made others learn, adopting the experience of the advanced Western countries. This was done not just for its own sake, nor merely at the whim of the Russian Tsar, but for the expediting of vital tasks for the country. Peter’s modernisation was a response to the historical challenge of that era. Its pro-Western character was related to the materials and methods. Russia, where serfdom still existed for the majority of the population, made an industrial and military breakthrough. No other country in the world was in a similar situation in those times.

The features of the Russian commonwealth, which was making a powerful breakthrough in its modernisation, were reflected in the image of the Tsar, the leader. Vigorous in his reforms, brave in battles, Peter never tired of attending to the “common good.” It is not by accident that Leibniz, the great European philosopher, singled out precisely the Russian Tsar among other rulers. “The true goal of science is the bliss of people,” the thinker said. “Sciences and the arts are the real treasures of mankind because art overcomes nature by its means ... I did not just find a powerful sovereign who would be sufficiently interested in it. I hope I found one in Your Majesty.”

Leibniz paid great attention to the practical application of scientific knowledge, the publication of technical guidelines and the creation of schools and universities. At the end of Peter the First’s life, the Russian Academy of Sciences was established. It should be noted that the intention of Leibniz had much in common with Peter’s long-nurtured dream “to make Holland out of Russia.” The difference, however, was that Holland developed by itself, and Peter intended to transform Russia with the help of absolute power.

Some Western masters were invited to Russia by Peter to participate in his transformations. Dozens and then hundreds of new manufacturing works and factories were created. A completely new and powerful industrial zone appeared in the Urals with huge and promising potential. And the main driving force of the reforms was the Russian people.

European technologies and the European principles of the formation of management mechanisms were at the heart of Peter’s modernisation. The

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6 Nefedov 2014, p. 61.
Petrine era left a significant mark on the history of Russian culture as well. There was a major change in cultural life in Russia, which had far-reaching consequences for the fate of the national culture.\(^7\)

In general, the main consequences of this modernisation were a powerful industrial breakthrough, victory in the Northern War and the return to Russian control of the Baltic Sea gate. The military-political struggle against certain European states was forced upon Russia. Peter I opened a window to Europe to strengthen economic, political and cultural ties with the West. In addition, this, in turn, became necessary for Europeanisation and the development of the Russian economy.

We can say without exaggeration that in the first quarter of the eighteenth century there was a sharp economic leap in Russia that was equal to industrialisation of the Soviet period in its significance and consequences,\(^8\) as the Russian historian Anisimov stated, and we can concur.

Taking into account this comparison, we note some problems regarding modern historiography on, assessments of and approaches to the considered phenomena. The collapse of the Soviet state and the sharp change of paradigms have led to extraordinary polemics on the issues of reform, modernisation and the social development of Russia. They have included struggles regarding interpretations, definitions and theoretical aspects, as we might naturally expect. But often there are political biases and ideological positions held in these debates. On the one hand, this is due to the consequences of the socioeconomic cataclysms of the 1990s. At that time, some liberal pro-Western doctrines dominated; they accelerated the shift to a free-market strategy and the secularisation of consciousness and values, which did not always correspond to the moral standards and traditions of Russian society. Today we live in the conditions of a new stage of geopolitical problems. The activation of Russia’s role on the international stage often provokes ambiguous reactions from Western countries. According to these authors, double standards in politics should cause concern among humanities scholars from different countries.

On the other hand, there is a certain crisis in the historiography of the modern period. The agenda is the task of “forming a relatively new research field - a second-order historiography, i.e., a discipline connected with the comprehension of the ways of studying the whole range of historiographical questions.” We have some “works on this subject which in a rather fragmentary way outline the lines of analysis of the named research space, rather than give ready results and conclusions.”\(^9\)

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\(^7\) Eremenko 1994, p. 128.
\(^8\) Anisimov 1989, p. 121.
\(^9\) Krikh, Metel 2014, p. 159.
Modern consumer society is limited by the postulates of postmodernism. Teodor Shanin noted that in recent decades such forms of intellectual surrender as the critique of modernity by postmodernism have become more and more prominent, a form of critique where everything is relative, except for relativity itself. In postmodernism, the idea of progress paradoxically found its extreme expression in the denial of Science as such.\(^\text{10}\)

Types of, and options for modernisation vary, as well as its interpretations. In modern debates, for example, there are conservative, liberal and even socialist types of modernisation. Further, the modern researcher writes that differing perceived goals of modernisation are in many ways opposed to one another (the radical restructuring of society in some cases, and purely technological borrowings and innovations in other cases), as can be its driving forces - the society, social and political movements or bureaucracy, elite groups or individuals.\(^\text{11}\)

The second Russian modernisation - in the late nineteenth and early twentieth centuries - contributed both to integration with the Western world and dependence on it. This implies the following: rather strong positions of foreign capital in the country, borrowed Western ideas (communist, socialist-democratic and liberal ones) and participation in European unions. The Entente would not have been able to defeat Germany, Austria-Hungary and their allies without Russia. Suffice it to recall the most successful military operation during the First World War - the Brusilovsky breakthrough - carried out by Russian troops. The year 2016 saw the marking of 100 years since that day. This anniversary reminds us of the lessons of those dramatic events.

In many ways, the exogenous nature of this modernisation (i.e., with reliance on external borrowings) was affected by natural tendencies in the development of the world capitalist system. It was also a catch-up modernisation that was being carried out - the process of national acceleration and the approaching of the modern West. The need for industrial modernisation forced Nicholas II, the Russian Emperor, to consider the reformist sentiments of some statesmen, primarily Sergeĭ Yul’evich Vitte. But the Russian Tsar considered the traditionalists, who advocated for the inviolability of autocratic order and class, to be his tower of strength. Vitte himself was also a supporter of the autocracy at the beginning of the century. His efforts were focused on the industrialisation of the country, but this was not completed. The agrarian sphere remained the primary area of Russian employment. It preserved a huge workforce and patriarchal way of life, poorly

\(^{10}\) Shanin 1998, p. 36.
\(^{11}\) Medushevskiy 2011, p. 7.
integrated with the advanced sectors, with primitive technologies and pre-capitalist relations. In terms of industrial output per capita Russia lagged behind the leading nations; 73.7% of the country’s population were illiterate.\textsuperscript{12} Russian modernisation during that period, associated with the names of Sergei Yul’evich Vitte and Petr Arkad’evich Stolypin, asserted capitalism in an overwhelmingly agrarian country. In Russia in the early twentieth century, where the agrarian question had not been completely solved, there were the highest rates of development. They were, however, interrupted by the war and its consequences, as well as by social contradictions in the country caused by the revolutionary events of 1917-1920.

The problems and tasks for Soviet industrial modernisation

The third, Soviet or socialist, modernisation was similar to the first, Petrine, one in that it involved the carrying out of vital tasks for the country. This involved the preservation of national sovereignty, the territorial integrity of the country. Both of these modernisations took place in conditions of acute international tension or warfare. Peter’s reforms basically culminated in a glorious victory in the Northern War and the declaration of a Russian empire. And the formation of a powerful industrial base in the USSR occurred on the eve of Hitler’s aggression. This newly realised industrial potential made it possible to resist German fascism and eventually to defeat it.

The search for common features between the third and second modernisations has a slightly different result, revealing similarities within the sphere of the technical accomplishments of the early twentieth century. These can include the emergence and development of socio-economic and political doctrines, and of philosophical and cultural concepts. The scientific and technological revolution and the emergence of new branches of scientific knowledge in the second half of the nineteenth century and in the early twentieth century laid the foundations for subsequent scientific and technological achievements. The contribution of Russian and Soviet scientists to world science in the twentieth century was widely known.

Modernisation in the Soviet Union took place against the backdrop of big changes throughout the world after the First World War and a series of social revolutions in a number of countries. Russia was no longer ruled under its traditional autocratic power and nobility, but was now in an entirely different socio-political situation. The new social alternative defined the issues of property (property being brought into public ownership), the role of workers (a worker is the hegemony of society), and the corresponding cultural values (socialist realism). Motivation for the division into particular stages of Russian modernisation is justified by the preservation of tradition -

\textsuperscript{12} Gorinov et al. 1992, p. 22.
first of all, of statehood with a strong central authority, but in the Soviet era taking the form of a party-state nomenclature and authoritarianism. After many destructive cataclysms, it was possible to preserve the integrity of the territory: the USSR almost corresponded to the area of the former Russian Empire.\footnote{Safetnikov 2006, p. 43.}

The 1920s and 1930s marked a dismantling of the system of “state socialism.” Party structures gradually and steadily merged with state structures. The authority of the Bolshevik Party was strengthened after victory in the Civil War. The legitimacy of the one-party regime was reinforced by the revolutionary ideology of the architects of socialism. The party-administrative hierarchy determined a rather effective system of logical interactions. This system, sometimes, allowed the meeting of very complex social and economic challenges, the main one of which was the creation of heavy industry.

The New Economic Policy, with its variety of economic structures and market relations, was also marked by various crises. The sales crisis and grain crises showed that further expansion of restoration works and the establishment of an effective connection between the city and the village is impossible without the government’s management of the market. It was during the NEP that the first attempts were made to develop broad sectoral programmes. Such programmes were needed in order to force industrialisation as soon as possible. After all, the country’s defence issues were directly related to this. In 1933, as is known, Hitler came to power in Germany and the deliberate preparation of that country for war began. Further, Japan began military operations to gain domination in the Far East. Meanwhile, the civil war in Spain of 1936 to 1939 ended in victory the fascists of General Franco with the support of Germany and Italy.

Here we should recall the fact that the industrial revolution had provided the West with new technologies, not least military equipment. It immediately found its application in colonial conquests, and then in the struggle for a re-division of the world. Thus, the British and French armies by 1854 were equipped with the newly invented rifled Whitworth rifles and fittings, and the military flotilla with steam engines. And soon thereafter, together with the Turkish army, they entered the Crimean War. In the face of military threats, societies which were to escape conquest had no choice but to hastily adopt the techniques of conquerors and build factories producing this military hardware. A new war threatened; with expectations of this war, the air hung heavy with fear of the imminent attack of the capitalist powers.\footnote{Fitzpatrick 2008, p. 49.}
Industrialisation in the USSR began in the very difficult economic conditions of the late 1920s. Fuel and agricultural raw materials went up in price and the cost of rail transportation increased. In an effort to increase output, a small amount of equipment which was not yet obsolete was put into operation; its servicing cost a fortune. The economic development of the country was also affected by the changes to its territorial boundaries caused by the separation from Finland, the Baltic states, Poland and some other industrially developed areas. The cost of production assets of the factory and mining industry declined in Soviet Russia by approximately 18%. The scientist of that time Efim Semenovich Gorfinkel calculated that from 1913 up until 17 September 1939 the heavy industry of the USSR lost 16.1% of workers and 16.5% of total gross output; light industry lost 19.2% of workers and 20% of gross output.

Features of Soviet industrialisation
In contrast to the developed Western countries, a serious motivator of industrialisation in the USSR by the early 1930s was the “goods famine.” There was a shortage of industrial goods, and the consumer demand of citizens was growing constantly. There was a large gap between the prices for industrial and agricultural goods within the country, as well as between world prices and Soviet ones. In this situation, savings were meant to play the main role. Unlike the previous modernisation of the beginning of the century, there was a question of creating a powerful industrial base and a large number of enterprises. Many of them were medium and large enterprises. These public industries made some necessary savings. They prevailed in this expansion of domestic industry through financing from the state budget.

The main source of funds for carrying out forced industrialisation (which was one of its features) in the absence of external loans was agriculture. Collectivisation was not an unambiguous process in its results. On the one hand, peasants became collective farm workers and lost a significant part of their property. On the other hand, collective farms could acquire the necessary equipment. Tractor depots were formed. This was an incentive to increase the production of tractors and combined harvesters. There were Fordsons and Fords earlier, but in the 1930s, the Chelyabinsk, Kharkov and Stalingrad tractor plants began to produce their domestic products.

Step-by-step progress was replaced by the need for an industrial breakthrough. It was necessary to build factories, industrial cities and a military industry.

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15 Lelchuk 1984, p. 95.
16 Garfinkel 1929, p. 146.
Stages and Problems of Russian Modernisation and Features of Soviet Industrial

It was necessary to move millions of workers from the village to the industry and give them bread. This called for increasing agricultural production, which was impossible without the decisive intervention of the government and with obsolete peasant agricultural engineering.\textsuperscript{17}

Those were the words of Sergey Aleksandrovich Nefedov, a contemporary historian. Further he writes:

The only possible solution to the problem of the movement of workers from the countryside to industry was the mechanisation of agriculture. It was possible to solve the problem by using horse-drawn mowers ... but the Bolsheviks, as the party of true modernisers, aspired to something more: they were guided by the most modern Western models.\textsuperscript{18}

Thus, industrialisation in specific historical conditions is influenced by foreign policy factors, the interests of the national economy and security, and certain sources of savings. The Soviet leadership began to understand by the early 1930s that it was necessary to spend most of its funds on the reconstruction of operating factories, mines and oil installations. They were directed towards the development of old industrial areas.

According to Nicolas Wert, a French historian, the growth in the production of equipment and the semi-finished products of heavy industry, the extraction of raw materials and the production of electric power were very significant, but the production of light industry goods and consumer goods did not receive proper attention. Huge investments were made in industry, but the need for investment in the social and cultural spheres was constantly ignored.

Industrialisation was carried out with extensive methods and big expenses ... It caused an increasing need for political leadership in the economic sphere.

The administrative-command system (using modern Soviet terminology) replaced the laws of the market economy.\textsuperscript{19}

Nevertheless, to assess Soviet industrialisation from the point of view of socio-economic costs would not be entirely objective. Undoubtedly, the significant motivators for an industrial breakthrough were high-powered work, maximisation of efficiency and productivity and Stakhanovism. The enthusiasm for labour of workers, engineers and employees was an important factor in the activation of productive life.

Staff training policy played its role in the economic achievements of the 1930s. Factory academies, schools and groups for essential technical qualifications grew constantly in number. Since the human factor is always the most important, the Soviet government paid great attention to the youth

\textsuperscript{17} Nefedov 2013, p. 124.
\textsuperscript{18} Ibid., p. 125.
\textsuperscript{19} Wert 1992, p. 201.
in the 1930s. During the first five-year plan, in 1938-1939 more than 500,000 became Komsomol members. The number of labour unions increased more than two times (from 12 million in 1930 to 25 million in 1939). Labour unions dealt with labour productivity, the rationalisation of production, the strengthening of labour discipline, social insurance and production-technical training. Stakhanovism made it possible to increase labour productivity by 25.5% in heavy industry during the course of 1936, and by 35-45% in industry as a whole.\textsuperscript{20}

The slogan “It’s all about the people” is relevant to this day. After all, successful modernisation depends on a sufficient number of educated and experienced specialists. No amount of financial speculation or military seizure of territory will make society stronger if the most important potential is weakened in it. It’s called the human factor.

One of those who first summed up the results of socialist modernisation was Lev Trotsky, a political opponent of the Soviet leadership and, especially, Stalin. He was even deported from the USSR for factionalism. In the mid-1930s, Trotsky carefully examined the dynamics of the industrial development of our country comparing it with the corresponding indicators of the major capitalist countries. Germany’s production output fell to the level of 1929 during the period of 1929-1935 (the years of the global crisis); Britain’s level increased by only 3-4%. US industrial production output fell by 25% and French production output by 30%; only Japanese production output increased, by almost 40%. The Soviet Union’s industrial level increased by 250%; during this period it changed its place in the world economic system. For example, in 1925 it held 11th place in electricity production, but it gave its place to Germany and the United States in 1935. The USSR moved from 6th to 3rd place in the smelting of cast iron, and it took first place in the production of tractors.\textsuperscript{21}

This issue remains controversial in the modern scientific world, but it still raises special interest, for example, among modern American researchers, such as Henri-Louis Bergson, Holland Hunter and others. Speaking about the problems and costs of Soviet industrialisation in a superlative degree, they also recognise its outstanding results. Compared to the fact that it was the time of the Great Depression for the Western bourgeois world, they noted that the gross domestic product of the USSR increased by 97.1% between 1928 and 1940. This was indeed a strong performance.\textsuperscript{22}

The war interfered with the third five-year plan in the USSR. The treacherous attack of Hitler’s Germany in June 1941 made the Soviet

\textsuperscript{20} Olsztynski 2002, p. 333-334.
\textsuperscript{21} Khromov 1997, p. 27.
\textsuperscript{22} Hunter, Szyrmer 1992, p. 26.
economy urgently restructure itself for the production of military hardware with which to fight fascism. The natural growth of the USSR economy was interrupted. However, that industrial potential which had been created during the first five-year plans allowed our people to withstand and win a victory in the most difficult conditions.

According to Lewis H. Siegelbaum, an American historian, the Soviet people destroyed doubts inside the country and abroad, rapidly and enthusiastically erecting giant plants and dams, and transforming obsolete villages into collective farms in the process of becoming citizens of a truly socialist society. Their achievements were noted and officially recorded in “Stalin’s Constitution” of 1936, which guaranteed civil rights and equality to all people of the Soviet Union. But heavy industrialisation and collectivisation were not only ideological campaigns. The threat of imperialist aggression which remained throughout this period justified this enormous effort. Industrialisation, thus, guaranteed the survival of the nation and the mission of socialism. 23

The main guarantee of the success of the process under consideration was technical self-sufficiency. Let us highlight here one more feature of Soviet modernisation. Industrialisation was its main motivation and cause in tough times and within a geopolitical framework. The creation of a technical industrial base was the result of modernisation in the developed countries of the West. There, it had been carried out systematically, in the absence of serious economic or geopolitical competition.

By the early 1930s, owning equipment was not enough, and mostly what were present were examples of American, German, Belgian and other foreign manufacturers’ products. The machines, presses, hammers, pumps and boilers of Sonenberg, Max-Gasse, Marissa, Becker, Brown Sharp, Malkus and others were in demand in large industrial zones. There were other problems, which stimulated the development and production of domestic equipment. With an increase in the amount of imported equipment, the problem of servicing became topical.

Even qualified labour collectives had trouble servicing the acquired equipment. Each company tried to solve these problems according to its capabilities. In the 1920s and 1930s, the technical development of regional production was largely dependent on imports. For example, the largest grouping of industrial imports was of machinery into the Urals. To a certain extent, progress in the development of industrial production in the Urals was due to the degree of the introduction of imported equipment and technologies. With the development of industrialisation in the region and the creation of new plants and factories, the needs of the regional economy for

the import of modern equipment, technologies, materials and raw materials significantly increased.\textsuperscript{24}

Industrialisation in this huge country was carried out at a regional level in a rather peculiar way, even in the agrarian regions of southern Russia. So, in Kuban, where the main sector of the economy was agricultural, there were various industrial enterprises. Basically, they were focused on the output and processing of agricultural products, and on the extraction of natural resources. Nevertheless, some large and recognised industrial enterprises were reconstructed and modernised. They played a significant role in the development of urban infrastructure and their workers actively participated in the cultural and social life of Kuban.

For example, the plant named after Sedin was able to increase its labour productivity in difficult conditions by 79.1\% between 1930 and 1932, and began to produce cars that had previously been manufactured only abroad.\textsuperscript{25} In 1937, the plant began to produce carousel machines, the first ones in the USSR; this made it possible to become free of foreign dependence on this type of machine.

Cement produced by the factories of Novorossiysk received a gold medal for its high quality at the World Exhibition in Paris in 1936. It was widely used in many large construction projects in the country: Magnitogorsk Metallurgical Combine, Moscow Metro and the Stalingrad Tractor Plant, for example.\textsuperscript{26} To increase the effectiveness of work, many enterprises of Kuban established contacts with the North Caucasus Industrial Research Institute in Krasnodar.\textsuperscript{27}

\textbf{Discussion}

The matter of modernisation in its historical context the issues of industrial development have been the subject of research for both Russian and foreign researchers. Among Russian scientists who devoted their works to the issues of the modernisation and industrial development of countries and regions, we would like to mention Vladimir Vyacheslavovich Kozlovskii, Vitaliĭ Semenovich Lel’chuk, Andreĭ Nikolaevich Medushevs’kiĭ, Aleksandr Sergeevich Panarin, Nikolaĭ Anatol’evich Rodionow, Anatoliĭ Ivanovich Utkin and Valentina Gavrilovna Fedotova. They made significant contributions to the development of knowledge on modernisation and development in their multidimensional aspects. Some foreign scientists who

\textsuperscript{24} Radionov 2012, p. 163.
\textsuperscript{25} SAKT, fund R-1547, series 1, file 55, p. 42.
\textsuperscript{26} Khrestomatiya 1982, p. 111.
\textsuperscript{27} SAKT, fund R-237, series 1, file 206, p. 97.
have addressed these problems are Lewis H. Siegelbaum, Paul Rabinow, Holland Hunter, Teodor Shanin and Janusz M. Szyrmer.

Domestic and foreign researchers turned to the analysis of aspects of modernisation and its types. They have considered the features of industrialisation in specific countries and at different stages of historical development. In general, however, matters pertaining to continuing modernisation in the world, both at the theoretical and applied levels, need further development. This need is especially acute in response to geopolitical challenges, various contradictions in the socio-economic and cultural spheres of a number of countries and a phase of deindustrialisation occurring within some of them.

Conclusions
Socio-economic and geopolitical contradictions pose a special challenge to many members of the world community, a challenge related to the possibilities for, and ways of carrying out “catch-up” modernisation and overcoming imbalances in the spheres of production and consumption. The success of modernisation largely depends on the social activity of people and the political will of leaders. Thus, the factor of social and political solidarity can become a serious problem of modernisation or a guarantor of its successful conduct. This is the solidarity of the authorities and the people, which manifests itself in an awareness of national challenges and endeavours on the part of all social groups. Both the Petrine and Soviet types of modernisation have demonstrated this solidarity in actual historical conditions. Understanding common features across the various stages of Russian modernisation and the problems of this process require the taking into account of some specific features of Russian civilisation and its traditions of industrial construction.

The meaning of Soviet industrialisation (similar to industrial modernisation in other countries) was the development of new industries and the construction of new advanced industrial enterprises. However, in the conditions of our country and in a complicated international situation, it was extremely difficult to implement a balanced development. The differences between Soviet modernisation and foreign examples lay in the new format of the social alternative and the political system of the country, as well as in the primary growth of heavy industry. In addition, the special value of the experience of industrial development and its problems is in the unique nature of the process in different regions of the country in conditions of uneven economic development. This regional uniqueness was the main guarantee of the accelerated progress of previously obsolete regions.

The experience of Soviet industrialisation is important today for the analysing of methods and conditions for the conducting of reindustrialisation
in Russia. The further study of modern conditions and civilisational prerequisites for modernisation against the backdrop of postmodernist trends in both economically developed and developing countries remains an urgent task. Historians today also need to study the specifics of the industrial development of individual regions of the country.

Bibliographical Abbreviations

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
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<tbody>
<tr>
<td>SAKT</td>
<td>State Archives of the Krasnodar Territory.</td>
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<tr>
<td>Abreviere</td>
<td>Detalii</td>
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<tr>
<td>Adevârul</td>
<td>Adevârul. București.</td>
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<tr>
<td>AÉ</td>
<td>Archaeologia Értesítő a Magyar régészet, művésyt-történeti és éremtani társulat tudományos folyóirata. Budapesta.</td>
</tr>
<tr>
<td>AHY</td>
<td>Austrian History Yearbook. Center for Austrian Studies. Minneapolis MN.</td>
</tr>
<tr>
<td>AIEFCB</td>
<td>Anuarul Institutului de Etnografie și Folelor „Constantin Brâiloiu”. Academia Română, Institutul de Etnografie și Folelor „Constantin Brâiloiu”. București.</td>
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<tr>
<td>AIIAC</td>
<td>Anuarul Institutului de Istorie și Arheologie Cluj-Napoca. (este continuat de AIIGB).</td>
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<td>AIIAI/AIIX</td>
<td>Anuarul Institutului de Istorie și Arheologie „A. D. Xenopol” Iași (din 1990 Anuarul Institutului de Istorie „A. D. Xenopol” Iași).</td>
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<td>Anuarul Institutului de Istorie „George Barițiu” Cluj-Napoca. (continuă AIIAC).</td>
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<td>AIIN</td>
<td>Anuarul Institutului de Istorie Națională. Cluj-Sibiu.</td>
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<td>AISC</td>
<td>Anuarul Institutului de Studii Clasice. Cluj.</td>
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<tr>
<td>Alba-Iulia</td>
<td>Alba-Iulia. Alba Iulia.</td>
</tr>
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<td>AM</td>
<td>Arheologia Moldovei. Institutul de Istorie și Arheologie „A. D. Xenopol” Iași.</td>
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<tr>
<td>Anatolia Antiqua</td>
<td>Anatolia Antiqua. L’Institut Français d’Études Anatoliennes d’Instanbul.</td>
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</table>
Lista abrevierilor

Astra Sabesiensis - Astra Sabesiensis. Despărtământul Astra „Vasile Moga” Sebeș.
AUASH - Annales Universitatis Apulensis. Series Historica. Universitatea „1 Decembrie 1918” din Alba Iulia.
BCH - Bulletin de correspondance hellénique. L'Institut de correspondance hellénique d'Athènes. Athenas.
BCȘS - Buletinul Cercurilor Științifice Studențiști. Universitatea „1 Decembrie 1918” din Alba Iulia.
BerRGK - Bericht der Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts. Frankfurt pe Main.
<table>
<thead>
<tr>
<th>Abreviere</th>
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<tr>
<td>Carpaţii</td>
<td>Carpaţii: Vânătoare, pescuit, chinologie. Cluj.</td>
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<tr>
<td>CCA</td>
<td>Cronica cercetărilor arheologice. Bucureşti.</td>
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<tr>
<td>Der Unterwald</td>
<td>Der Unterwald. Sebeş.</td>
</tr>
<tr>
<td>EO</td>
<td>Etnograficheskoye obozrenie. Institut etnologii i antropologii RAN. Moscova.</td>
</tr>
<tr>
<td>European Archaeology</td>
<td>European Archaeology/online. Bucureşti.</td>
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<td>FI</td>
<td>File de Istoric. Muzeul de Istoric Bistriţa (continuată de Revista Bistriţei).</td>
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<td>F Urb</td>
<td>Forma Urbis. Roma.</td>
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</tbody>
</table>
Lista abrevierilor

HOMÉ - A Herman Ottó Múzeum Évkönyve. Miskolc.
IJSE - International Journal of Environmental & Science Education. Kazan.
IPH - Inventaria Prachistorica Hungarie. Budapesta.
Istoricicheskie - Istoricicheskie, filosofskie, politicheskie i yuridicheskie nauki, kulturologiya i iskusstvovedenie. Voprosy teorii i praktiki. Tambov.
JRGZM - Jahrbuch des Römisch-Germanischen Zentralmuseums zu Mainz.
Kubaba - Kubaba. Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisabona.
Lupta - Lupta. Iași.
MCA - Materiale și cercetări arheologice. București.
Muzeológia - Muzeológia a kultúrne dedičstvo. Univerzita Komenského v Bratislave.
Múzeum - Slovenské národné múzeum. Bratislava.
Lista abrevierilor

PBF - Prähistorische Bronzefunde. München.
RES - Review of European Studies. Canadian Center of Science and Education. Toronto.
RIR - Revista istorică română. Institutul de Istorie Națională din București.
România liberă - România liberă. București.
RRSE - Revista română de studii eurasiatice. Centrul de Studii Eurasiatice, Universitatea „Ovidius” Constanța.
SAA - Studia Antiqua et Archaeologica. Universitatea „Alexandru Ioan Cuza” din Iași.
SAI - Studii și articole de istorie. Societatea de Științe Istorice și Filologice a RPR. București.
SArcheologiczne - Sprawozdania Archeologiczne. Instytut Archeologii i Etnologii PAN. Cracovia.
Lista abrevierilor


SCB - Studii și cercetări de bibliologie. Academia RPR. București.

SCIV(A) - Studii și cercetări de istoria veche. București (din 1974, Studii și cercetări de istorie veche și arheologie).

SCN - Studii și Cercetări de Numismatică. Institutul de Arheologie „Vasile Pârvan” București.


SlovArch - Slovenská Archeológia. Nitra.

SlovNum - Slovenská numizmatika. Národný numizmatický komitet Slovenskej republicy a Archeologický ústav SAV. Nitra.


SMIM - Studii şi materiale de istorie modernă. Institutul de Istorie „Nicolae Iorga” al Academiei Române. București.


Socialismul - Socialismul. București.

SP - Studii de Preistorie. Asociația Română de Arheologie. București.


Suceava - Anuarul Muzeului Județean Suceava.

SUCH - Studia Universitatis Cibiniensis, Serie Historica. Universitatea „Lucian Blaga” Sibiu.


Telegraphul - Telegraphul. București.


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<td><em>UPA</em></td>
<td>Universitätsforschungen zur Prähistorischen Archäologie. Berlin.</td>
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<td><em>VI</em></td>
<td>Voprosy istorii. Institut russkoy istorii Rossiyskoy akademii nauk. Moscova.</td>
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<td><em>VTT</em></td>
<td>Veszprémi Történeti Tár a Veszprém Megyei Múzeumi Igazgatóság kiadványa. Veszprém.</td>
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<td><em>Xenopoliana</em></td>
<td>Xenopoliana. Buletin al Fundației Academice „A. D. Xenopol” Iași.</td>
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